

## 25th 1st week(03/11/24 - 03/15/24) schedule for LHD experiment

Weekly report :

| Date | Day of the week | Bt direction | Schedule of the day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |           |                           |     | Wall  | Gas       | Experiment implementation system | Remark |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------|-----------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------|---------------------------|-----|-------|-----------|----------------------------------|--------|-------|-----|------|--------|-------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------|-----|-----|-------|-----|--------|--------|-------|-----|------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                 |              | Morning (～ 12:15)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |           | Afternoon (12:15 ～ 16:45) |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3/11 | Mo.             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |           |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3/12 | Tu.             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |           |                           |     | None  |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3/13 | We.             | CCW          | [MAP](12:15 ～ 16:45)ECH, NBI, ICH<br>Plasma Commissioning, Trial Operation of various devices<br><table><tr><th>#</th><th>Opt. Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></tr><tr><td>1</td><td>CCW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td>CCW</td><td>3.9</td><td>2.5385</td><td>1.2538</td><td>100.0</td><td></td></tr></table>                                                                                                                      |        |           |                           |     | #     | Opt. Pol. | Rax                              | Bax    | gamma | Bq  | SC   | 1      | CCW   | 3.6  | 2.75                                                                                                                                                                                                                                                                          | 1.2538 | 100.0     |     | 2   | CCW   | 3.9 | 2.5385 | 1.2538 | 100.0 |     | None | H2, He, N2, Ne, Ar, Kr, Xe | [Responsible person]N.Tamura / H.Hayashi<br>[Coordinator#1]T. Tokuzawa/R. Seki<br>[Coordinator#2]M. Yoshinuma/Y. Takemura<br>[ECH]R.Yanai<br>[Gas·vacuum·shutter]A/B<br>[Low temp.]noguchi.hiroki<br>[LID power]M.Kawai/K.Nagahara<br>[Coil power]tanoue.hiroyuki<br>[central ctrl.]ogawa.hideki<br>[data proc.]M.Ohsuna<br>[EXP LAN]nakamura.osamu | (id:723) Impurity pellet/TESPEL<br>(id:724) Impurity gas puff<br>(id:725) Impurity powder dropper<br>(id:729) ECH: Low absorption condition<br>(id:731) Mag. Conf.: Using LID coil<br>(id:732) Probe: Insertion of Fast Ion Loss Diagnostics (8-O)<br>(id:734) Probe: HDLP Probe access near LCFS<br>(id:737) ECH: Commissioning alignment, profile check)<br>(id:740) ICH: IC wave injection into the vacuum (w/o plasma)<br>(id:745) ECH: Collective Thomson Scattering (CTS) measurement<br>(id:746) ECH: EC wave Injection from the Port 1.5Uo antenna |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| #    | Opt. Pol.       | Rax          | Bax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gamma  | Bq        | SC                        |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1    | CCW             | 3.6          | 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2    | CCW             | 3.9          | 2.5385                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3/14 | Th.             | CW           | [MAP](12:15 ～ 16:45)ECH, NBI, ICH<br>Plasma Commissioning, Trial Operation of various devices, Effects of boronization<br><table><tr><th>#</th><th>Opt. Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></tr><tr><td>1</td><td>CW</td><td>3.75</td><td>1.375</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td>CW</td><td>3.6</td><td>1.375</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>3</td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table> |        |           |                           |     | #     | Opt. Pol. | Rax                              | Bax    | gamma | Bq  | SC   | 1      | CW    | 3.75 | 1.375                                                                                                                                                                                                                                                                         | 1.2538 | 100.0     |     | 2   | CW    | 3.6 | 1.375  | 1.2538 | 100.0 |     | 3    | CW                         | 3.6                                                                                                                                                                                                                                                                                                                                                 | 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.2538 | 100.0  |                                                                                                                                                                                                                                                                                                                                 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2, He, N2, Ne, Ar, Kr, Xe | [Responsible person]S.Masuzaki / H.Hayashi<br>[Coordinator#1]K. Mukai/T. Kobayashi<br>[Coordinator#2]Y. Hayashi/M. Nishiura<br>[ECH]N. Kenmochi<br>[Gas·vacuum·shutter]C/A<br>[Low temp.]ohba.kouki<br>[LID power]M.Kawai/K.Nagahara<br>[Coil power]takami.shigeyuki<br>[central ctrl.]ogawa.hideki<br>[data proc.]M.Ohsuna<br>[EXP LAN]inoue.tomoyuki | (id:723) Impurity pellet/TESPEL<br>(id:724) Impurity gas puff<br>(id:725) Impurity powder dropper<br>(id:729) ECH: Low absorption condition<br>(id:731) Mag. Conf.: Using LID coil<br>(id:732) Probe: Insertion of Fast Ion Loss Diagnostics (8-O)<br>(id:734) Probe: HDLP Probe access near LCFS<br>(id:737) ECH: Commissioning alignment, profile check)<br>(id:740) ICH: IC wave injection into the vacuum (w/o plasma)<br>(id:745) ECH: Collective Thomson Scattering (CTS) measurement<br>(id:746) ECH: EC wave Injection from the Port 1.5Uo antenna |
| #    | Opt. Pol.       | Rax          | Bax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gamma  | Bq        | SC                        |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1    | CW              | 3.75         | 1.375                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2    | CW              | 3.6          | 1.375                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3    | CW              | 3.6          | 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3/15 | Fr.             | CW           | [MAP](10:30 ～ 14:30)ECH, NBI<br>ECH Commissioning, Observation of Ha emission during plasma collapse<br><table><tr><th>#</th><th>Opt. Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></tr><tr><td>1</td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>                                                                                                                                                                                                                | #      | Opt. Pol. | Rax                       | Bax | gamma | Bq        | SC                               | 1      | CW    | 3.6 | 2.75 | 1.2538 | 100.0 |      | [MAP](14:30 ～ 16:45)<br>Calibration of fast ionization gauge<br><table><tr><th>#</th><th>Opt. Pol.</th><th>Rax</th><th>Bax</th><th>gamma</th><th>Bq</th><th>SC</th></tr><tr><td>1</td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table> | #      | Opt. Pol. | Rax | Bax | gamma | Bq  | SC     | 1      | CW    | 3.6 | 2.75 | 1.2538                     | 100.0                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | None   | H2, He | [Responsible person]T.Seki / H.Hayashi<br>[Coordinator#1]M. Shohji<br>[Coordinator#2]M. Kobayashi<br>[ECH]M. Nishiura<br>[Gas·vacuum·shutter]B/C<br>[Low temp.]noguchi.hiroki<br>[LID power]M.Kawai/K.Nagahara<br>[Coil power]tanoue.hiroyuki<br>[central ctrl.]ogawa.hideki<br>[data proc.]M.Ohsuna<br>[EXP LAN]nakamura.osamu | [MAP]CXs, PCI, CO2, Reflectometer, FIG, Divertor Probe<br>[MAP]14:30 - 16:45 Sequence cycle: 5 min 2 sec<br>(id:727) E/I: High Base Pressure Operation<br>(id:728) Mag. Conf.: 3.55 m =< Rax < 3.6 m<br>(id:729) ECH: Low absorption condition<br>(id:737) ECH: Commissioning alignment, profile check)<br>(id:746) ECH: EC wave Injection from the Port 1.5Uo antenna<br>(id:748) ECH: off-axis injection (Combined)<br>(id:757) ECH: Optical Vortex |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| #    | Opt. Pol.       | Rax          | Bax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gamma  | Bq        | SC                        |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1    | CW              | 3.6          | 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| #    | Opt. Pol.       | Rax          | Bax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gamma  | Bq        | SC                        |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1    | CW              | 3.6          | 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2538 | 100.0     |                           |     |       |           |                                  |        |       |     |      |        |       |      |                                                                                                                                                                                                                                                                               |        |           |     |     |       |     |        |        |       |     |      |                            |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Daily Schedule

Prepared by

N.Tamura

| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Experimental Subject                                     |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------|--------|--------|--------|-----------------------------------------------------------------------------|-----------|----|----|--------|----|----|----|-----|--------|----------|--------|--------|-------|-------|-----------|---|--|-----|-----|------|--------|-------|--|---|--|-----|-----|--------|--------|-------|--|------------------------------|--|
| 2024/3/13(Wed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Plasma Commissioning, Trial Operation of various devices |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| Exp. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Experimental Session Group                               |          |        |        |        | Session Coordinator                                                         |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| 1330                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MAP                                                      |          |        |        |        | T. Tokuzawa[2217] / M. Yoshinuma[2172]<br>R. Seki[2201] / Y. Takemura[2167] |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| Time Table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8                                                        | 9        | 10     | 11     | 12     | 13                                                                          | 14        | 15 | 16 | 17     | 18 | 19 | 20 | 21  | 22     |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                          | U<br>P   |        |        |        | [MAP]                                                                       |           |    |    | D<br>N |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| Details and Experimental Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    | Gas |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| <p>[MAP](12:15 ~ 16:45) ECH, NBI, ICH<br/>#The coil excitation for experiments will start after the fire drill (from around 9:45).</p> <p>12:15(Expected) - 16:45 Plasma Commissioning (N. Tamura)<br/>12:15(Expected) - 16:45 Trial operation of various devices (N. Tamura)</p> <p># Devices to be commissioned: Fueling pellet, Impurity pellet, TESPEL, IPD, gas puff, movable probes, sample manipulators, LID, CTS?, Fast TS?</p> <p>Sequence:3min</p> <table><tr><th>#</th><th>Option</th><th>Polarity</th><th>Rax(m)</th><th>Bax(T)</th><th>gamma</th><th>Bq(%)</th><th>Subcooled</th></tr><tr><td>1</td><td></td><td>CCW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CCW</td><td>3.9</td><td>2.5385</td><td>1.2538</td><td>100.0</td><td></td></tr></table>                                           |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    | #   | Option | Polarity | Rax(m) | Bax(T) | gamma | Bq(%) | Subcooled | 1 |  | CCW | 3.6 | 2.75 | 1.2538 | 100.0 |  | 2 |  | CCW | 3.9 | 2.5385 | 1.2538 | 100.0 |  | H2,He,N2<br>,Ne,Ar,Kr,<br>Xe |  |
| #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Option                                                   | Polarity | Rax(m) | Bax(T) | gamma  | Bq(%)                                                                       | Subcooled |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          | CCW      | 3.6    | 2.75   | 1.2538 | 100.0                                                                       |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          | CCW      | 3.9    | 2.5385 | 1.2538 | 100.0                                                                       |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| Wall Conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| GD(Before Exp.): None , GD(After Exp.): None , Cryopump(During Exp.): off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| The coil excitation at 9:30 is for a fire drill. After the fire drill, the coil excitation for experiments will be conducted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |
| [Precautions for today's LHD experiments]<br>(id:723) Impurity pellet/TESPEL<br>(id:724) Impurity gas puff<br>(id:725) Impurity powder dropper<br>(id:729) ECH: Low absorption condition<br>(id:731) Mag. Conf.: Using LID coil<br>(id:732) Probe: Insertion of Fast Ion Loss Diagnostics (8-O)<br>(id:734) Probe: HDLP Probe access near LCFS<br>(id:737) ECH: Commissioning (alignment, profile check)<br>(id:740) ICH: IC wave injection into the vaccum (w/o plasma)<br>(id:745) ECH: Collective Thomson Scattering (CTS) measurement<br>(id:746) ECH: EC wave Injection from the Port 1.5Uo antenna<br>(id:748) ECH: off-axis injection (Combined)<br>(id:749) ICH: Antennae insertion for plasma heating by ICH : Subcool required<br>(id:757) ECH: Optical Vortex injection<br>(id:759) Probe: Edge plasma measurement using the fast-scanning Langmuir probes |                                                          |          |        |        |        |                                                                             |           |    |    |        |    |    |    |     |        |          |        |        |       |       |           |   |  |     |     |      |        |       |  |   |  |     |     |        |        |       |  |                              |  |

## Daily Schedule

Prepared by

N.Tamura

| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Experimental Subject                                                              |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------|--------|--------|-----------------------------------------------------------------------------|-----------|----|--------|----|----|----|----|-----|--------|----------|--------|--------|-------|-------|-----------|---|--|----|------|-------|--------|-------|--|---|--|----|-----|-------|--------|-------|--|---|--|----|-----|------|--------|-------|--|------------------------------|--|
| 2024/3/14(Thu)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Plasma Commissioning, Trial Operation of various devices, Effects of boronization |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| Exp. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Experimental Session Group                                                        |                                                                           |        |        |        | Session Coordinator                                                         |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| 1331                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MAP                                                                               |                                                                           |        |        |        | K. Mukai[2240] / Y. Hayashi[2121]<br>T. Kobayashi[2231] / M. Nishiura[2184] |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| Time Table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8                                                                                 | 9                                                                         | 10     | 11     | 12     | 13                                                                          | 14        | 15 | 16     | 17 | 18 | 19 | 20 | 21  | 22     |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                   | U<br>P                                                                    |        |        | [MAP]  |                                                                             |           |    | D<br>N |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| Details and Experimental Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    | Gas |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| <p>[MAP](12:15 ~ 16:45) ECH, NBI, ICH<br/>The coil excitation for experiments will start after the fire drill (from around 9:45).</p> <p>(Between 11:00-12:00) - 14:30 Plasma Commissioning (N. Tamura)<br/>(Between 11:00-12:00) - 14:30 Trial operation of various devices (N. Tamura)</p> <p># Devices to be commissioned: Fueling pellet, Impurity pellet, TESPEL, IPD, gas puff, movable probes, sample manipulators, LID, HIBP, CTS?, Fast TS?</p> <p>14:45 - 16:45 Effects of boronization on plasma facing surface (S. Masuzaki)</p> <p>Sequence:3min</p> <table><tr><th>#</th><th>Option</th><th>Polarity</th><th>Rax(m)</th><th>Bax(T)</th><th>gamma</th><th>Bq(%)</th><th>Subcooled</th></tr><tr><td>1</td><td></td><td>CW</td><td>3.75</td><td>1.375</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>2</td><td></td><td>CW</td><td>3.6</td><td>1.375</td><td>1.2538</td><td>100.0</td><td></td></tr><tr><td>3</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table> |                                                                                   |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    | #   | Option | Polarity | Rax(m) | Bax(T) | gamma | Bq(%) | Subcooled | 1 |  | CW | 3.75 | 1.375 | 1.2538 | 100.0 |  | 2 |  | CW | 3.6 | 1.375 | 1.2538 | 100.0 |  | 3 |  | CW | 3.6 | 2.75 | 1.2538 | 100.0 |  | H2,He,N2<br>,Ne,Ar,Kr,<br>Xe |  |
| #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Option                                                                            | Polarity                                                                  | Rax(m) | Bax(T) | gamma  | Bq(%)                                                                       | Subcooled |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | CW                                                                        | 3.75   | 1.375  | 1.2538 | 100.0                                                                       |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | CW                                                                        | 3.6    | 1.375  | 1.2538 | 100.0                                                                       |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | CW                                                                        | 3.6    | 2.75   | 1.2538 | 100.0                                                                       |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| Wall Conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                   | GD(Before Exp.): None , GD(After Exp.): None , Cryopump(During Exp.): off |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| The coil excitation at 9:30 is for a fire drill. After the fire drill, the coil excitation for experiments will be conducted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                   |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |
| <p>[Precautions for today's LHD experiments]</p> <p>(id:723) Impurity pellet/TESPEL<br/>(id:724) Impurity gas puff<br/>(id:725) Impurity powder dropper<br/>(id:729) ECH: Low absorption condition<br/>(id:731) Mag. Conf.: Using LID coil<br/>(id:732) Probe: Insertion of Fast Ion Loss Diagnostics (8-O)<br/>(id:734) Probe: HDLP Probe access near LCFS<br/>(id:737) ECH: Commissioning (alignment, profile check)<br/>(id:740) ICH: IC wave injection into the vaccum (w/o plasma)<br/>(id:745) ECH: Collective Thomson Scattering (CTS) measurement<br/>(id:746) ECH: EC wave Injection from the Port 1.5Uo antenna<br/>(id:748) ECH: off-axis injection (Combined)<br/>(id:749) ICH: Antennae insertion for plasma heating by ICH : Subcool required<br/>(id:757) ECH: Optical Vortex injection<br/>(id:758) Insertion of sample, etc.: Insertion of samples using manipulator<br/>(id:759) Probe: Edge plasma measurement using the fast-scanning Langmuir probes</p>                                                         |                                                                                   |                                                                           |        |        |        |                                                                             |           |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |      |       |        |       |  |   |  |    |     |       |        |       |  |   |  |    |     |      |        |       |  |                              |  |

Daily Schedule

Prepared by

N.Tamura

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|-------|--------------------------------------|----|--------|----|----|----|----|-----|--------|----------|--------|--------|-------|-------|-----------|---|--|----|-----|------|--------|-------|--|-------|--|
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Experimental Subject                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| 2024/3/15(Fri)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ECH Commissioning, Observation of Ha emission during plasma collapse<br>Calibration of fast ionization gauge |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| Exp. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Experimental Session Group                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       | Session Coordinator                  |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| 1332                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | MAP                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       | M. Shohji[2151] / M. Kobayashi[2169] |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| Time Table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 8                                                                                                            | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10     | 11     | 12     | 13    | 14                                   | 15 | 16     | 17 | 18 | 19 | 20 | 21  | 22     |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                              | U<br>P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | [MAP]  |        |        |       | [MAP]                                |    | D<br>N |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| Details and Experimental Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    | Gas |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| [MAP](10:30 ~ 14:30) ECH, NBI<br>10:30 - 12:15 ECH Commissioning<br>12:15 - 14:30 Observation of Ha emission during plasma collapse (M. Yoshinuma)<br><br>NBI pattern: #6, (#1,#2,#3,#4) - (#2,#3,#4) - (#2,#3)<br><br>Sequence:3min<br><table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table> |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    | #   | Option | Polarity | Rax(m) | Bax(T) | gamma | Bq(%) | Subcooled | 1 |  | CW | 3.6 | 2.75 | 1.2538 | 100.0 |  | H2    |  |
| #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Option                                                                                                       | Polarity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Rax(m) | Bax(T) | gamma  | Bq(%) | Subcooled                            |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              | CW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.6    | 2.75   | 1.2538 | 100.0 |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| [MAP](14:30 ~ 16:45)<br>14:30 - 16:45 Calibration of fast ionization gauge (G. Motojima)<br><br>Sequence:3min, Other<br><table><tr><td>#</td><td>Option</td><td>Polarity</td><td>Rax(m)</td><td>Bax(T)</td><td>gamma</td><td>Bq(%)</td><td>Subcooled</td></tr><tr><td>1</td><td></td><td>CW</td><td>3.6</td><td>2.75</td><td>1.2538</td><td>100.0</td><td></td></tr></table>                                                                                                                 |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    | #   | Option | Polarity | Rax(m) | Bax(T) | gamma | Bq(%) | Subcooled | 1 |  | CW | 3.6 | 2.75 | 1.2538 | 100.0 |  | H2,He |  |
| #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Option                                                                                                       | Polarity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Rax(m) | Bax(T) | gamma  | Bq(%) | Subcooled                            |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              | CW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.6    | 2.75   | 1.2538 | 100.0 |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| Wall Conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| GD(Before Exp.): None , Cryopump(During Exp.): off                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |        |        |       |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                              | (MAP)CXS, PCI, CO2, Reflectometer, FIG, Divertor Probe<br>(MAP)14:30 - 16:45 Sequence cycle: 5 min 2 sec<br><br>[Precautions for today's LHD experiments]<br>(id:727) 圧力: High Base Pressure Operation<br>(id:728) Mag. Conf.: 3.55 m =< Rax < 3.6 m<br>(id:729) ECH: Low absorption condition<br>(id:737) ECH: Commissioning (alignment, profile check)<br>(id:746) ECH: EC wave Injection from the Port 1.5Uo antenna<br>(id:748) ECH: off-axis injection (Combined)<br>(id:757) ECH: Optical Vortex injection |        |        |        |       |                                      |    |        |    |    |    |    |     |        |          |        |        |       |       |           |   |  |    |     |      |        |       |  |       |  |