

(Special, MAP) Session Report

Date: Mar. 15, 2024

Time: 10:38 – 15:19

Shot#: 187576 – 187654 (79 shots)

Prior wall conditioning: None

Divertor pump: Off

Gas puff: H₂, He

Pellet: None

Mar. 19, 2024 (M. Shoji)

NBI#(1, 2, 3, 4, 5) = gas(H, H, H, H, H)=P(4.0, 3.2, 3.4, 3.8, –) MW

ECH(77GHz) = ant(1.5-Uo, 5.5-U, 2-OUR)=P(-, 0.44, 0.38) MW

ECH(154GHz) = ant(2-OLL, 2-OUL, 2-OLR)=P(0.24, 0.31, 0.355) MW

ICH(3.5U, 3.5L, 4.5U, 4.5L) = P(–, –, –, –) MW

Topics

1. ECH Commissioning (R. Yanai) → Detailed report next week
2. Observation of H α emission during plasma collapse (I. Drenth, M. Yoshinuma)
3. Calibration of fast ionization gauge (U. Wenzel, G. Motojima)

Observation of Ha emission during plasma collapse (Iris Drenth et al.)

Experimental conditions

(Rax, Polarity, Bt, γ , Bq) = (3.6, CW, 2.75, 1.254, 100%) #187609-#187653

ECH: only start up,

NBI: BL2+BL3+BL4, BL2A/B+BL3B/A+BL4

#187625: BL2+BL3+BL4

Objective

Intermittent Ha emission observed at the end of plasma with collapse.

Explore the cause of this behavior of Ha emission and investigate the behavior of the plasma during density collapse.

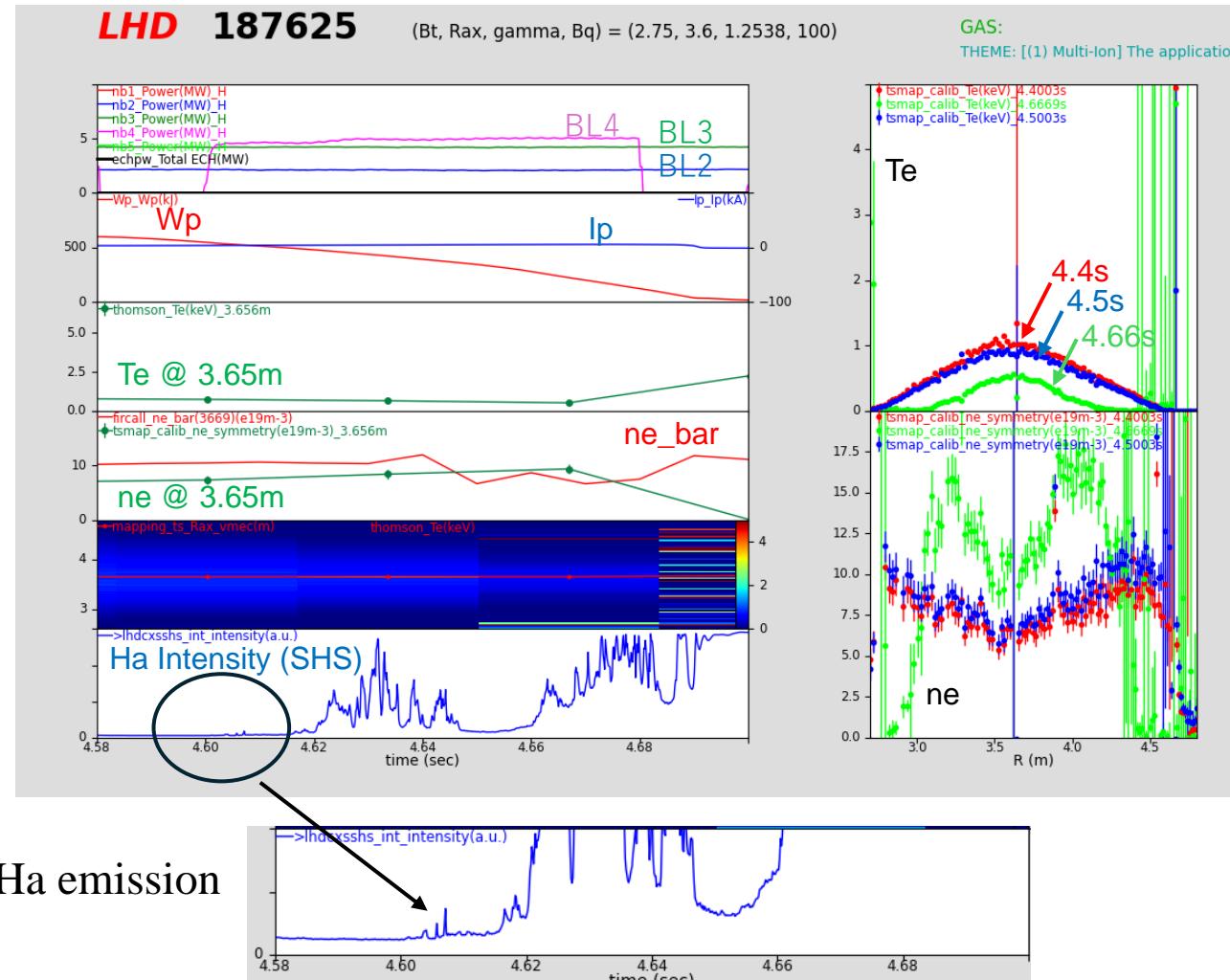
Experiment

Plasma density is ramped up to density limit and reproduce the intermittent Ha emission.

The Ha emission has been observed with SHS system with 7.5kHz time sampling.

Results

Similar SHS signal to previous campaign: intermittent Ha emission
Small and big peaks alternating: no periodicity
Peaks before plasma collapse

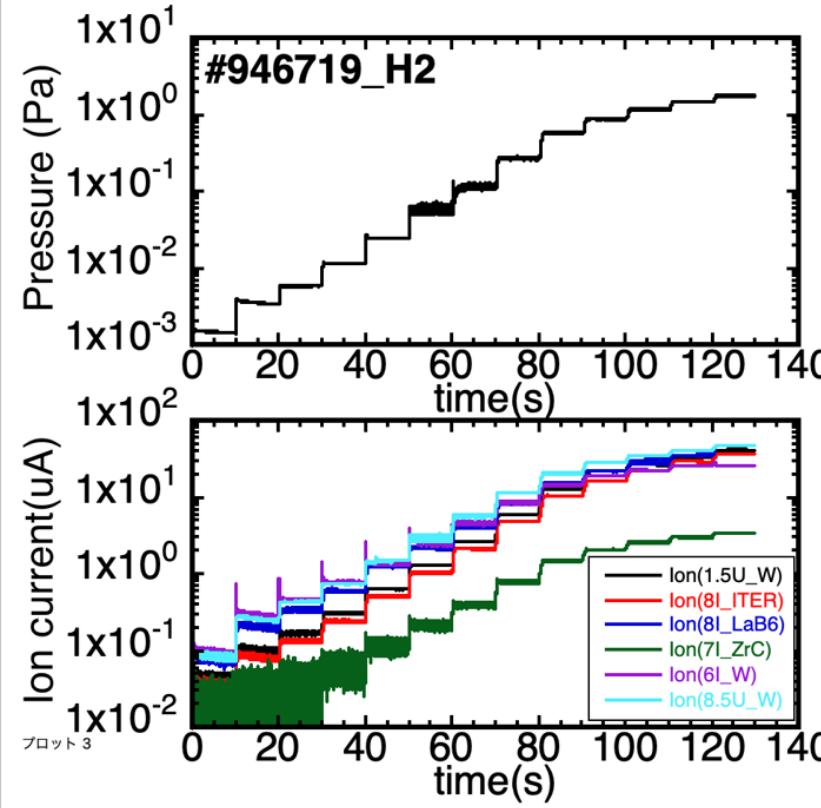


Calibration of neutral pressure gauges

G. Motojima, U. Wenzel(IPP)

Method

Neutral pressure gauges calibrated with magnetic field, introducing gas to V.V. step by step

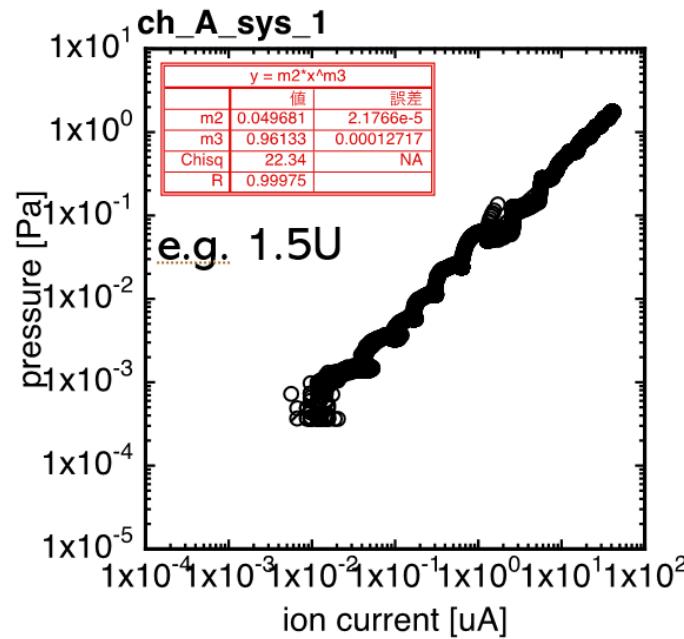


3/

G. Motojima

Results

Calibration factor identified



$$P = m1 \cdot I_{ion}^{m2}$$

		m1	m2	Ie (uA)
1.5U	Upper	0.049681	0.96133	400
8I_ITER	Divertor	0.066379	0.91528	800
8I_LaB6	Divertor	0.038128	1.0041	200
7I_ZrC	Divertor	0.33775	1.3384	10
6I_W	Divertor	0.0053534	1.7425	100
8.5U	Private	0.013025	1.2707	200

Outcome

Absolute neutral pressure obtained

