# (IA) Session Report

**Date**: April 25, 2024
**Time**: 14:15 – 16:45
**Shot**#: 190313– 190357 (45 shots)
**Prior wall conditioning**: No
**Divertor pump**: On
**Gas puff**: $H_2$
**Pellet**: No

**NBI**#(1, 2, 3, 4, 5) = gas(H, H, H, H, H)=P(4.2, 4.3, 4.4, 3.8, 4.1) MW
**ECH**(77GHz) = ant(1.5-Uo, 5.5-U, 2-OUR)=P(0.698, 0.38, 0.705) MW
**ECH**(154GHz) = ant(2-OLL, 2-OUL, 2-OLR)=P(0.889, 0.982, -) MW
**ICH**(3.5U, 3.5L, 4.5U, 4.5L) = P(-, -, -, -) MW

**Topics**
1. Diagnosis of fast ions in quiescent plasmas for comparison to predicted neoclassical confinement
   (W.Hayashi(UCI), M.Osakabe)

# Diagnosis of fast ions in quiescent plasmas for comparison to predicted neoclassical confinement – W. Hayashi (UC Irvine)

## Motivation

Continuation of 2022/11/22 experiment
- Enough data for $R_{ax}$ = 3.6m already acquired
- Some data for $R_{ax}$ < 3.6m already acquired

Acquire FICXS data for MHD-quiescent plasma with $R_{ax}$ > 3.6m and $R_{ax}$ < 3.6m

## Conditions

Density scan for higher densities (> 1e19 m-3) to reduce CX-loss of fast ions
- Upper limit of $n_e$ ~ 3e19 m-3 due to reduced FICXS signal at higher densities

## Results

190313 – 190339 ($R_{ax}$ = 3.7m)
- Approximately 10 shots with moderate MHD-quiescence
- Moderate MHD-quiescence: no activity above 100 kHz, minimal activity below 100 kHz

190340 – 190356 ($R_{ax}$ = 3.55m)
- Approximately 10 shots with moderate MHD-quiescence

Best results with $n_e$ around 1.5–2e19 m-3 using NB2 or NB3 as heating beam