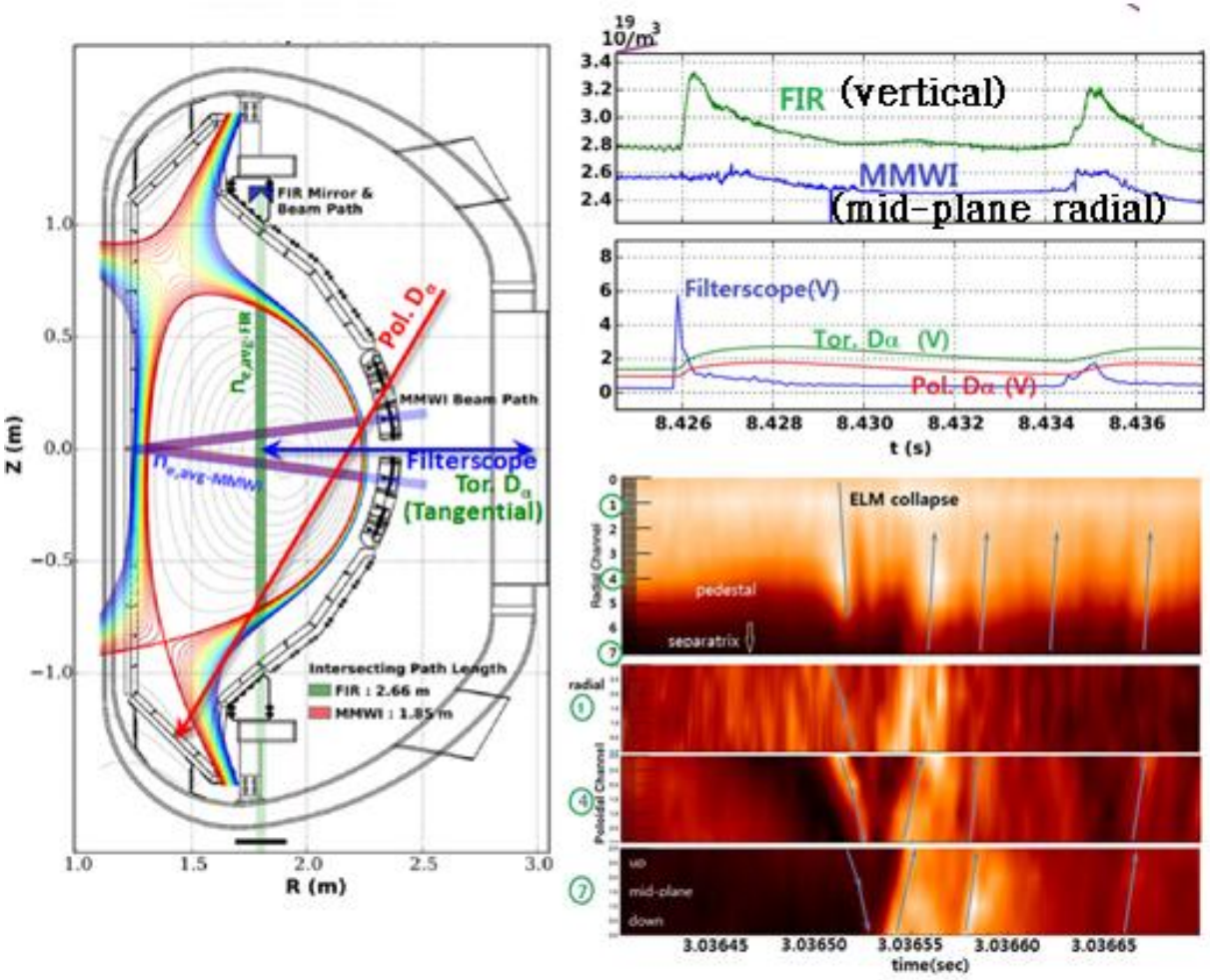
EXW/P4-23: Measurements of SOL Density Increase and Poloidal Asymmetry on KSTAR ELMs



► The vertical Far Infra-Red Interferometer (FIRI) data of large ELM crashes for the high power heated plasma showed plasma density increase(up to 64%), which is a contrary tendency to the general plasma density change at the ELM crashes (Tangential Interferometer measured density decrease).

► This measurement shows poloidal asymmetry of boundary density distribution including SOL.
Beam Emission Spectroscopy data also showed emission rising from bottom to top especially near separatrix.

► Detail comparison of interferometer density change with D-alpha emission suggests that the fast response of D-alpha is related with direct release of plasma by ELM collapse and delayed response is related with recycling which is responsible for the density increase measured by vertical interferometer and BES.