

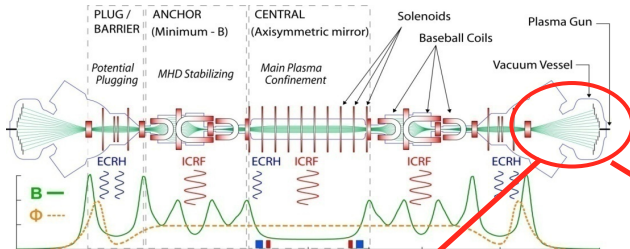
# Development of Divertor Simulation Research in the GAMMA 10/PDX Tandem Mirror *FIP/P8-10*

World Largest Tandem Mirror GAMMA 10/PDX

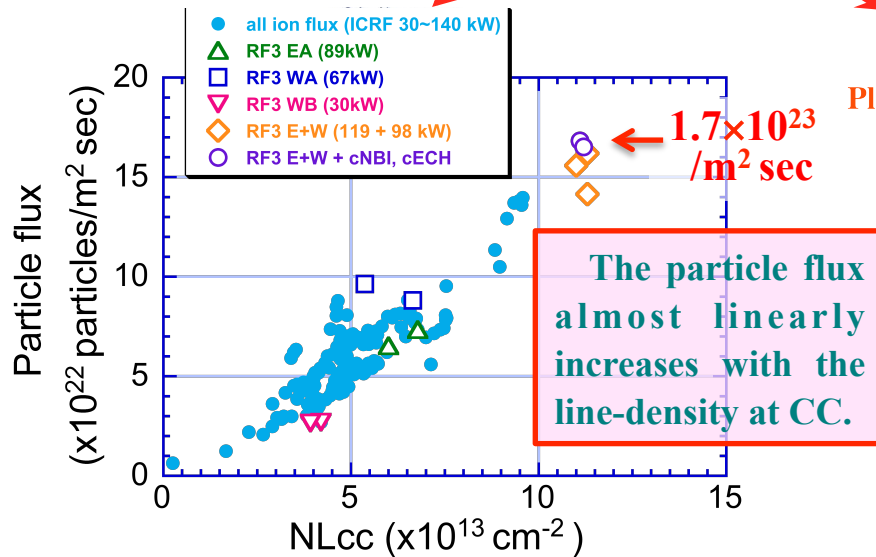
Plasma Research Center, University of Tsukuba

Y. Nakashima, et al.,

We have succeeded for the first time in achieving **plasma detachment** of high temperature plasma **equivalent to the SOL plasma of tokamaks** in large tandem mirror device.

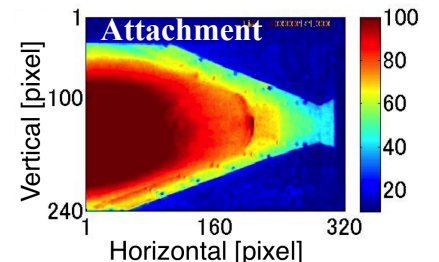
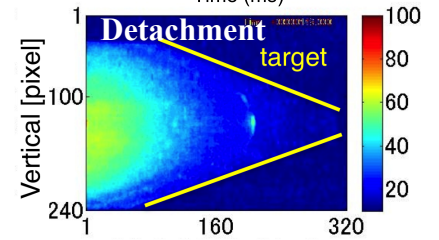
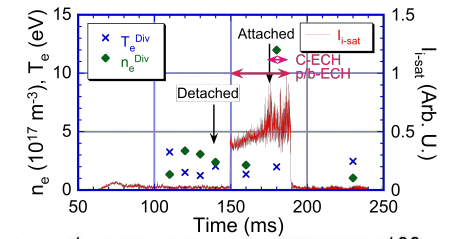
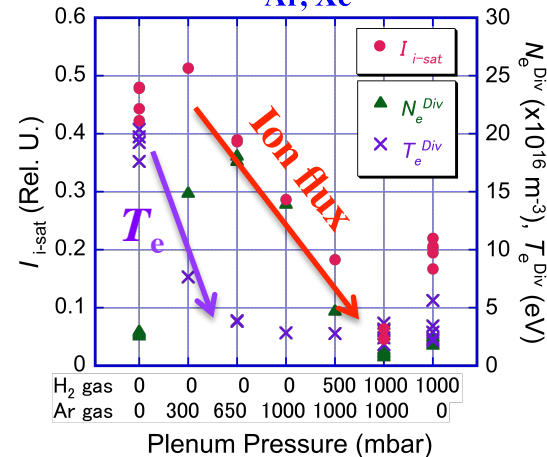
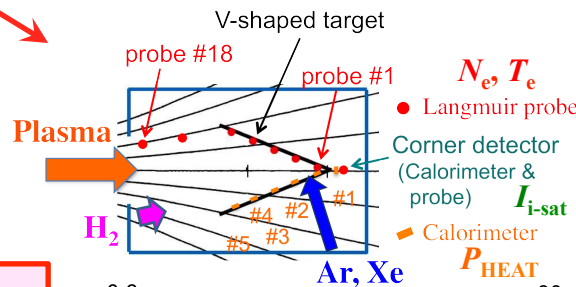


Particle Flux vs Plasma Line-density at CC.



Additional ICRF heating in the anchor-cells significantly increases the density in both the anchor and the central cells, which attained the highest particle flux up to  $1.7 \times 10^{23}$  particles/m<sup>2</sup>s at the end-mirror exit.

Detached Plasma Generation by Gas Injection      Detach – Attach Transition Experiment by ECH



Massive gas injection of **H<sub>2</sub>** and noble (**Ar, Xe**) gas causes electron cooling and a significant reduction of ion flux on the target.