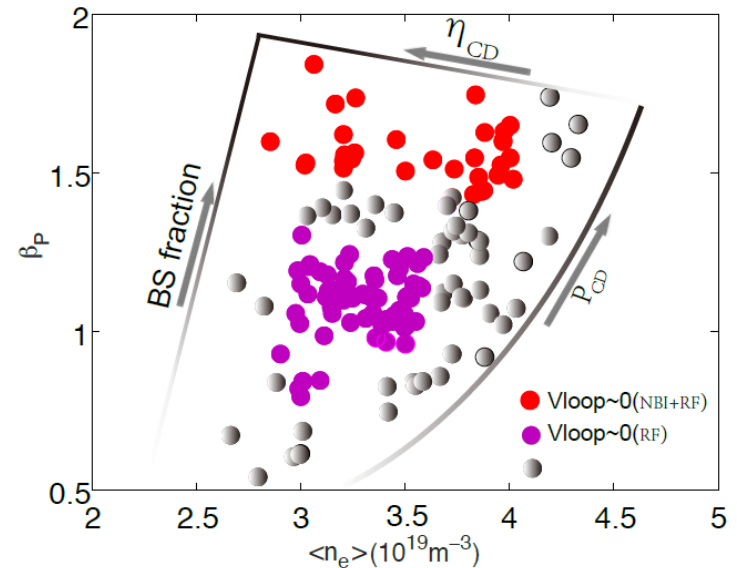


Summary (OV/2-2)

Significant progresses in both development of plasma control mechanism and understanding the related physics have been achieved, including:

- Demonstration of a steady-state scenario at high $\beta_P \sim 1.8$ with the tungsten divertor;
- Discovery of a stationary ELM-stable H-mode regime with 4.6 GHz LHCD;
- Extension of the current drive in high density domain (up to $4.5 \times 10^{19} \text{m}^{-3}$) with 4.6 GHz and 2.45GHz LHCD systems together;
- Achievement of ELM suppression in slowly-rotating H-mode plasma with the application of $n = 1$ and 2 RMPs;
- Regulating heat deposition distribution and reducing transit peak heat fluxes on the divertor and PFCs by applying 3D magnetic perturbations at the plasma boundary.



In addition to these achievements, the first investigations of both the active control of neoclassical tearing modes (NTMs) and formation of the internal transport barrier (ITB) are performed on EAST for the future development of a steady-state H-mode scenario towards the high β_N regime.