

Overview of Physics Results from ASDEX Upgrade

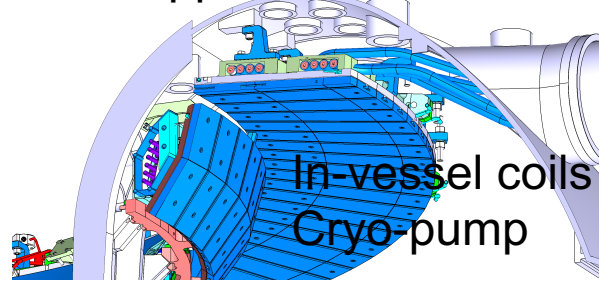


- Device**
- Upgraded long pulse ECRH (6 MW, 10s)
 - Up to 8 MW by end of 2018.
 - New split W tile design solved cracking problem.

- Edge**
- Deep insight into 3D edge physics (EX/7-3) – *new power supplies*
 - ELM suppression – achieved with finite $v_{e,\perp}$ over the whole pedestal
 - Helical localised ballooning mode destabilised by bad curvature on field line.
 - Reconnection during ELM causes fast ion acceleration (EX/P8-26).

- Core**
- Eddy tilt angle measurements consistent with ITG to TEM transition
 - benchmark gyro-kinetics.
 - Series of experiment highlight importance of P_{ei} for isotope studies.
 - Important to match electron and ion heating for extrapolation.

New upper divertor 2021



M. Willensdorfer et al.,
Phys. Rev. Lett., 119,
085002

Ballooning Mode (BM) location

