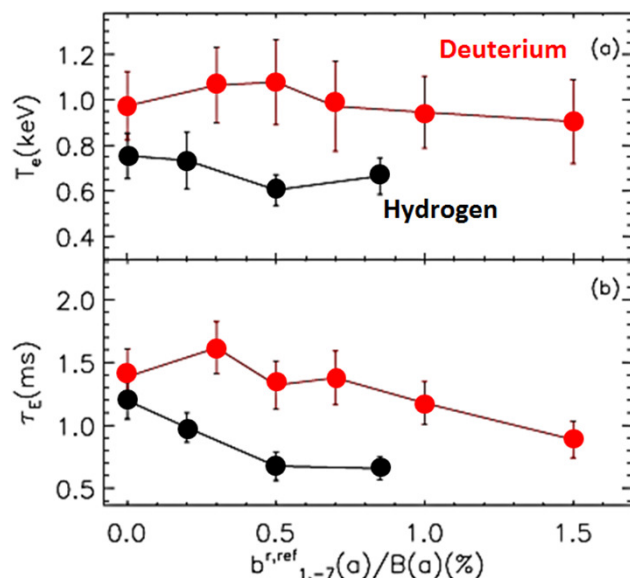


Overview of the RFX-mod Fusion Science activity

OV/P-2

RFX-mod operates as a Reversed Field Pinch and as a Tokamak
validation for MHD, transport and gyrokinetic codes

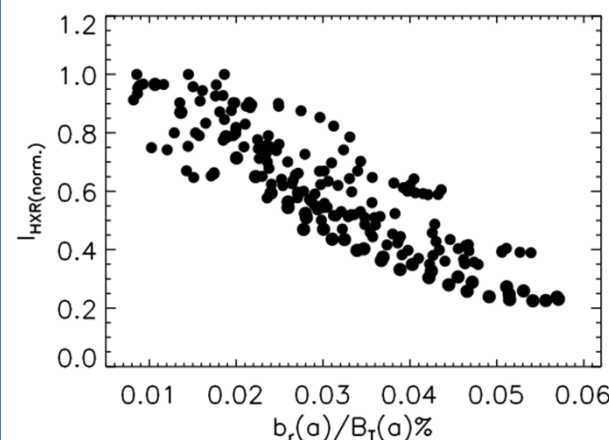


RFP

Isotope effect in
controlled 3D
equilibria



- Isotope effect: $T_{e,Deuterium}$ higher than $T_{e,Hydrogen}$ and $\tau_{E,D} \approx 30\%$ higher than $\tau_{E,H}$;
- Helical state dynamics well reproduced by 3D nonlinear MHD simulations
- Tearing mode unlocking achieved with FB control in low current RFP regimes
- Exposure of W coated samples to high power loads (≤ 100 MW/m²)



Tokamak

Runaway
mitigation
by MP



- Runaway decorrelation by MP
- 2/1 tearing mode unlocking by FB control
- Helical flows of saturated internal kink produce dynamo e.m.f.
- L-H transitions in circular and D-shaped plasmas with edge biasing