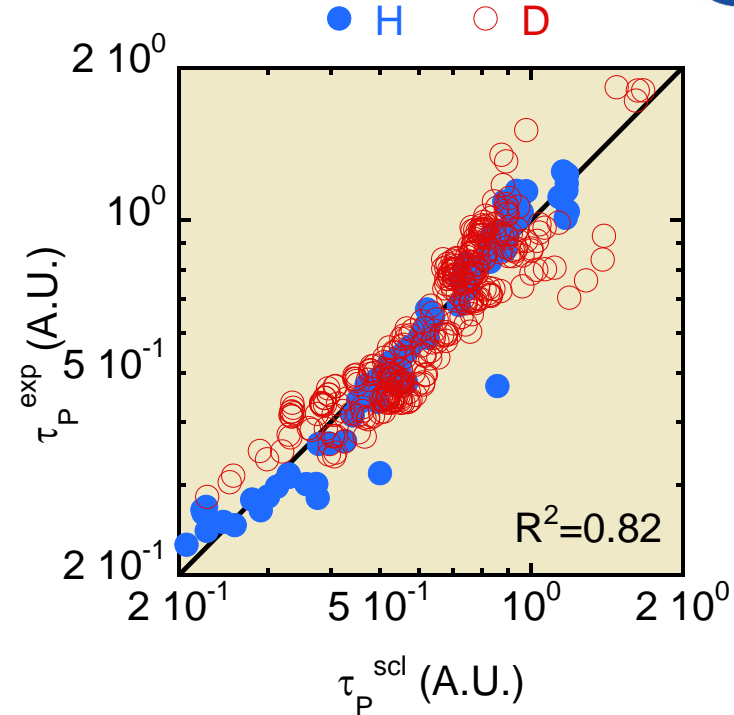
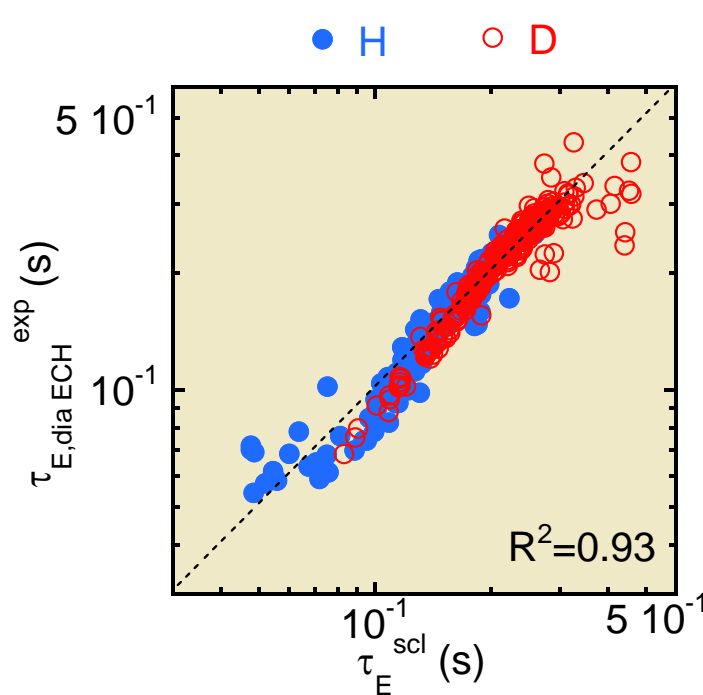


H and D isotope effects are extensively studied in LHD. Better τ_E and degraded τ_p in D were found in ECRH plasma.



$$\tau_{E\ ECH} \propto A^{0.24 \pm 0.01} \bar{n}_e^{0.58 \pm 0.01} P_{abs}^{-0.52 \pm 0.01}$$

$$(A_D/A_H)^{0.24} = 2^{0.24} = 1.18$$

$$\tau_{P\ ECH} \propto A^{-0.33 \pm 0.02} \bar{n}_e^{0.52 \pm 0.02} P_{abs}^{-0.69 \pm 0.02}$$

$$(A_D/A_H)^{-0.33} = 2^{-0.33} = 0.80$$

$$\tau_p = \frac{N_e}{S_e - dN_e/dt} \approx \frac{n_e \text{ bar}}{I_{H\alpha, D\alpha} + 2HeI}$$

- ✓ Purity of H and D are more than 80%
- ✓ Concentration of He is less than 10%
- ✓ Isotope effects is different in energy and particle channel