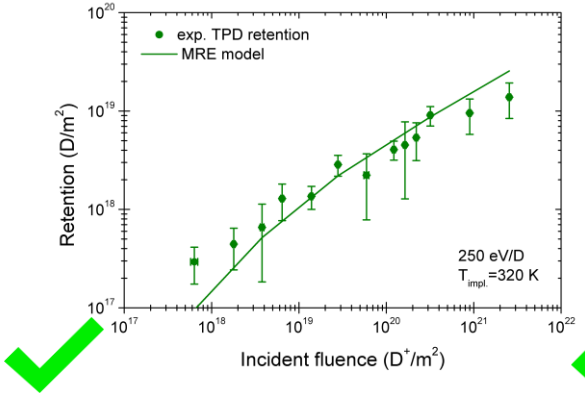
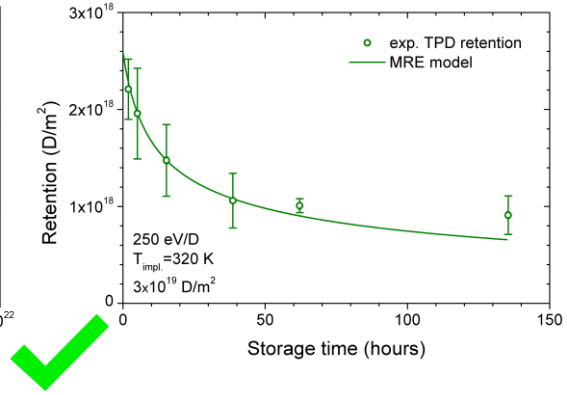
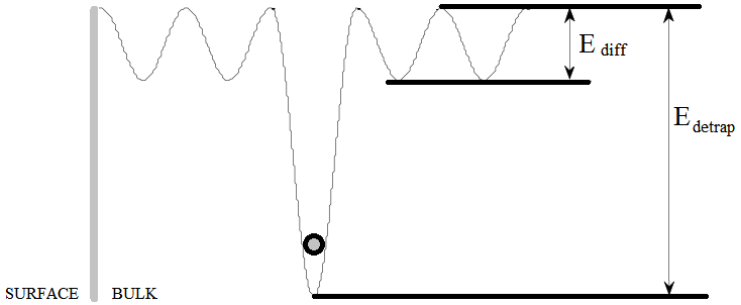
Retention and Release of Hydrogen Isotopes in Tungsten Plasma Facing Components:
Understanding and Controlling with an Integrated Approach

Large parameter space experimental data-set obtained on electropolished and recrystallized tungsten:
Parts in: Bisson *et al.*, J. Nucl. Mater. **467** (2015) 432

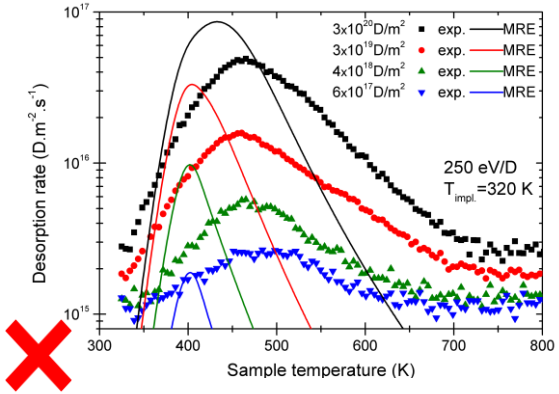




Macroscopic Rate Equations (MRE) model implemented in the MHIMS code:
Hodille *et al.*, J. Nucl. Mater. **467** (2015) 424



MRE model agreement is not obtained for the entire experimental data-set



Inspired by DFT calculations, a new MRE model is developed which implements multi-deuterium binding to defects (Hodille *et al.*, Phys. Scr. **T167** (2016) 4011). This model improves simulations agreement with some of experimental observations.