

Isotope exchange by ICWC on ITER like wall of JET (Be main chamber and W divertor)

- Close to complete change over achieved in 630sec of total ICWC discharge time
- Initial 2%D sampled in H₂ tokamak plasma → final 95%D sampled in D₂ tokamak plasma
- ICWC interacts with PFC surfaces that dominate the recycling in tokamak plasmas

Improved efficiency on JET-ILW compared to JET-C

- good recycling: isotopic ratio is high from first ICWC discharge on (ILW: 75-80% vs. CFC: 40%)
- less retention: improved (lower) ratio of retained discharge gas to removed fuel (ILW: 0.86-1.4 vs. CFC: 3)
- faster change over (>2 times) with ILW

Accessible fuel reservoir

> 7.3×10^{22} = larger than achieved by limiter plasmas

Successfully tested ICWC scenarios

ITER full field 5.3T/40MHz

→ JET 3.3T/25MHz

ITER half field 2.65T/40MHz

→ JET 1.65T/25MHz s

