Theory & Modelling activities in support of the ITER Disruption Mitigation System (E. Nardon)

- Wealth of T&M activities within the international ITER DMS Task Force, addressing all important issues
- During the non-active phase, RE avoidance might be obtained with a 2 step SPI scheme: pure H₂ SPI first, then Ne SPI
  - Pre-TQ dilution may suppress hot tail mechanism
- Present situation critical concerning RE avoidance during the active phase of ITER operation (T decay & Compton seeds + large avalanche) → Calls for further modelling and exploration of alternative schemes
- RE mitigation also uncertain but strategy based on a H₂ SPI into the beam to obtain a benign termination might lead to a solution
- Heat loads mitigation generally less critical but difficult to quantify in experiments
  - 3D MHD simulations ongoing to help optimize SPI parameters
- Also ongoing efforts on EM loads modelling, e.g. [S. Jardin et al., this conf.]
  - Will be taken into account to define an integrated disruption mitigation strategy