Runaway electrons and massive gas injection experiments at JET-ILW

- Massive gas injection radiation **efficiency decreases down to 75%** at high plasma thermal energy content ($W_{th}/(W_{th}+W_{mag}) = 0.5$)
- Toroidal radiation asymmetries depend on mode lock phasing before the disruption.

- Runaway electrons at JET-ILW can be produced in similar conditions as with the carbon wall using argon MGI
- **Runaway electron beams can be stopped if low-Z gas (D_2) is injected before the thermal quench**
- Mitigation of **already accelerated beams** (during current quench) using either high-Z or low-Z gases is **ineffective** in the mitigation pressure range tested.
- Impacts of ~770 kA RE beam leads to significant melting of PFC.

- **Radiation asymmetries studies** using two disruption mitigation valves are planned.
- **Investigation of mitigation of an already accelerated runaway** beam using higher pressures is planned
- Investigation of **runaway beams relation to vertical stability, control and plasma shape** is to be continued