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 \( \frac{W_{th}}{W_{th}+W_{mag}} = 0.5 \)
- 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