



# WPSA Operations – Disruption tools for operations

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**Eva Belonohy**

WPSA Operations Area Coordinator



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## Top European priorities:

1. Development and investigation of **high performance scenarios** compatible with future W-PFCs.
2. **Avoidance and mitigation of disruptions and runaways**
3. Fast ion physics
4. Development and validation of **high level real-time control strategies**

## Disruption triggers:

- User friendly control room GUI to check disruption trigger on previous pulse(s)
  - > increase trust and understanding of the trigger (early trigger vs. false positives)
  - > at higher currents, there will likely be standard disruption protection setup + scenario specific setup

## Disruption categorization:

- Support post-pulse analysis (in speed and quality) by identifying potential disruption causes
- Disruption database to support operator training, monitoring of trends, improve strategies

## Disruption avoidance/mitigation strategies:

- Expect strong experimental programme +
- Machine Protection considerations to set up boundary conditions for standard operations and exceptions for dedicated experiments
- Carbon machine -> post-disruption clean-up (pulse/ECWC) and machine checks (e.g. displacement)

Notes