



IDALAB

EFFICIENT DATA ANALYTICS SOLUTIONS



PARIS
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FOR AIRPLANE

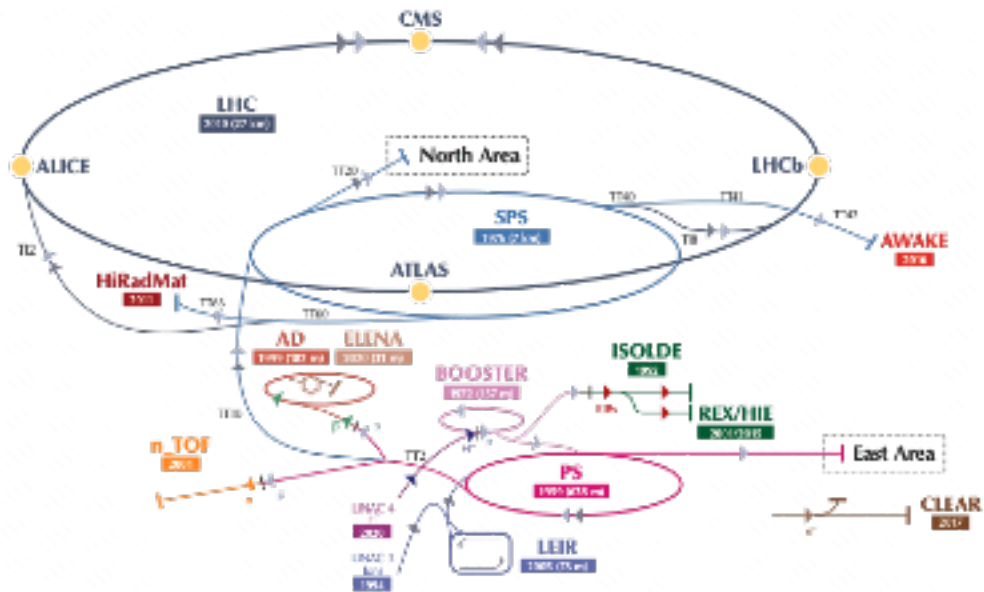
Challenges of RL in accelerator control



→ Establish performance

→ quickly recover performance

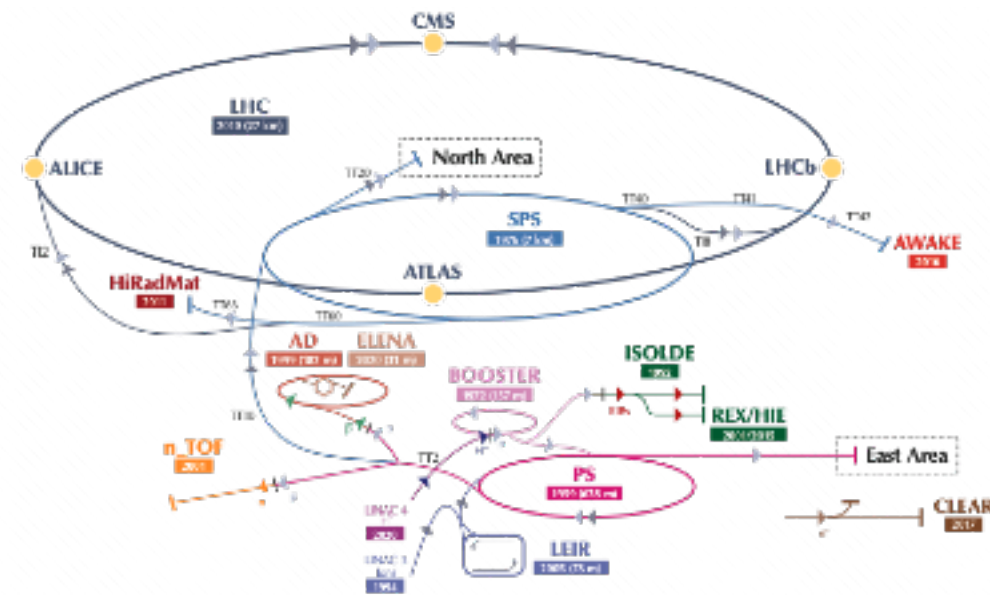
→ Maintain performance





Challenges of RL in accelerator control

- Goal:
 - ➔ Establish performance
 - ➔ Quickly recover performance
 - ➔ Maintain performance



RL and accelerators

Effectively understand and optimise require significant expertise and computational resources.
Challenges and problems, both the RL algorithms and the physical systems:

- Data Availability:
 - ➔ Slow and little data acquisition
 - ➔ Safety
 - ➔ Modelling and Simulation Limitations
 - ➔ Long times needed to adjust after faults, resets, changes
- Integration with Existing Systems
- Long-term Stability and Maintenance
- General Safety and Reliability
- Real-Time Decision Making
- Computational Resources

- Generalisation and fast Adaptation