

207th HL-LHC TCC follow-up on crystal collimation

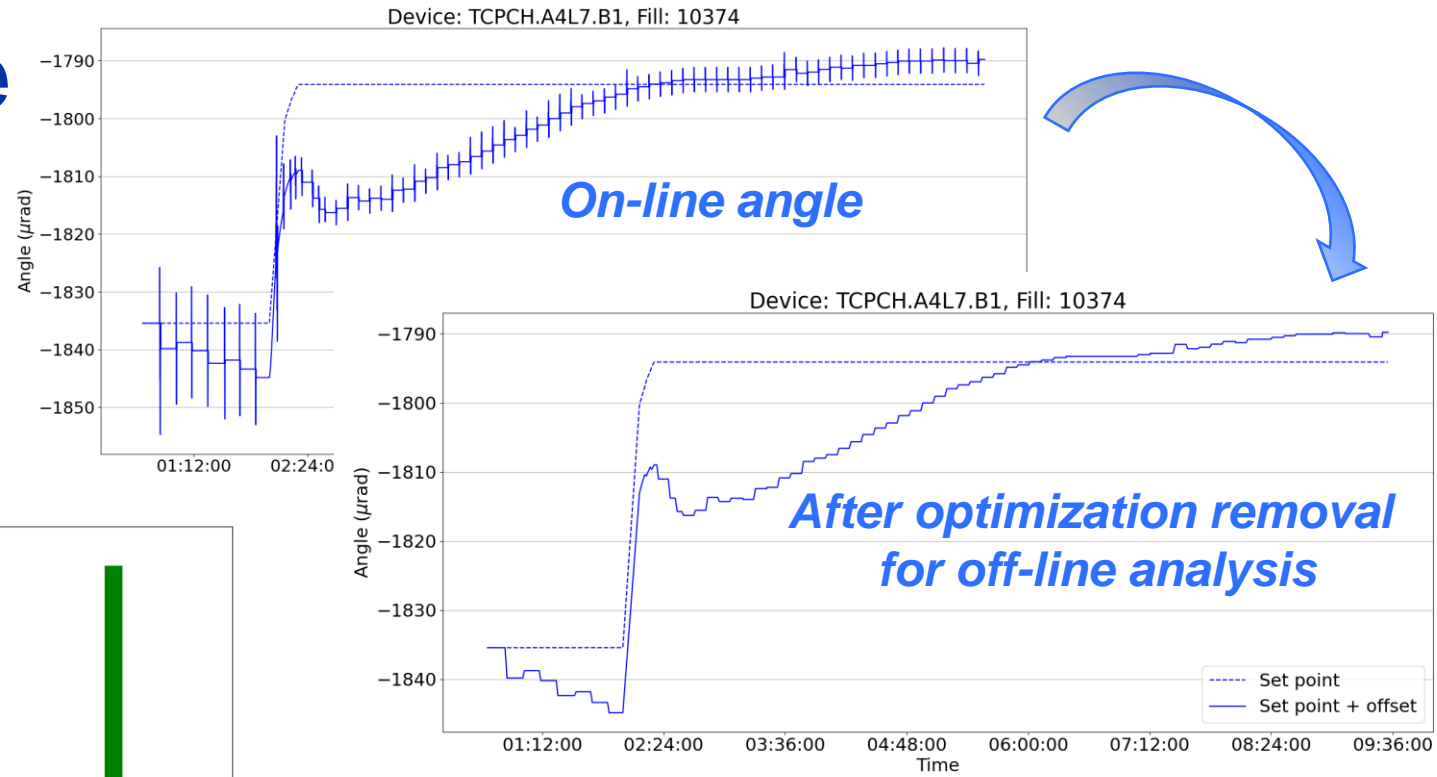
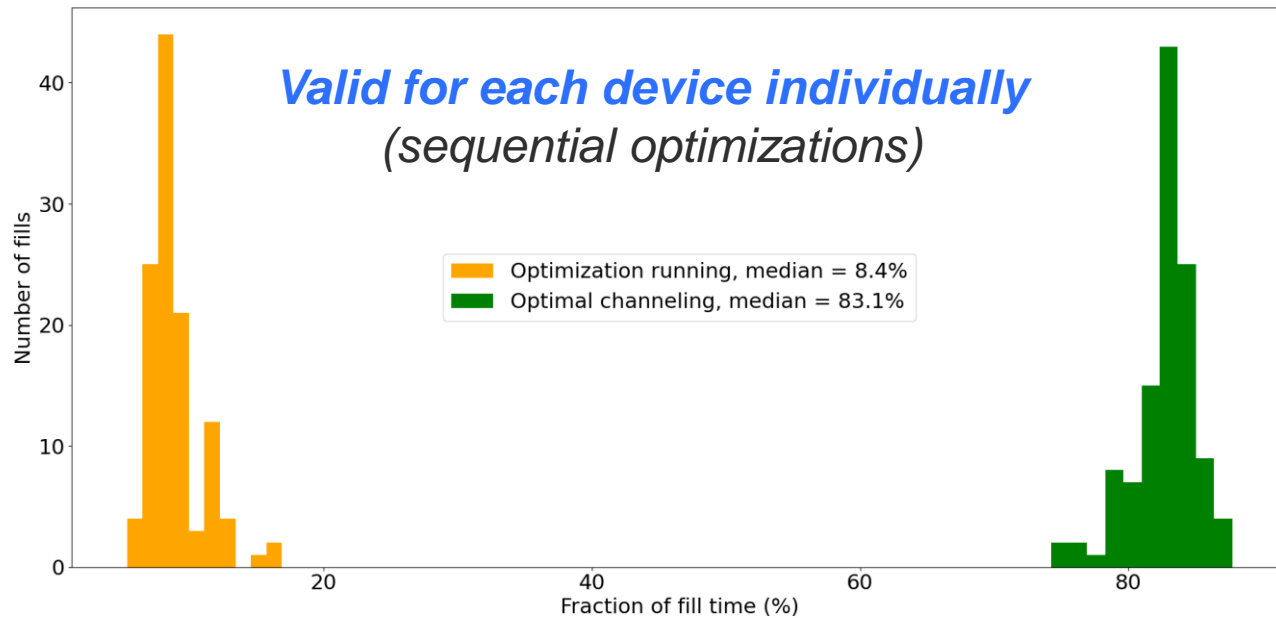
D. Mirarchi on behalf of BE-ABP-NDC, BE-CEM-MRO, BE-OP-LHC, SY-STI-TCD teams

208th HL-LHC Technical Coordination Committee



Autopilot performance

Main parameter to define performance:
How much **time** do we spend **optimising**
w.r.t. **time** spent in **optimal channeling**?



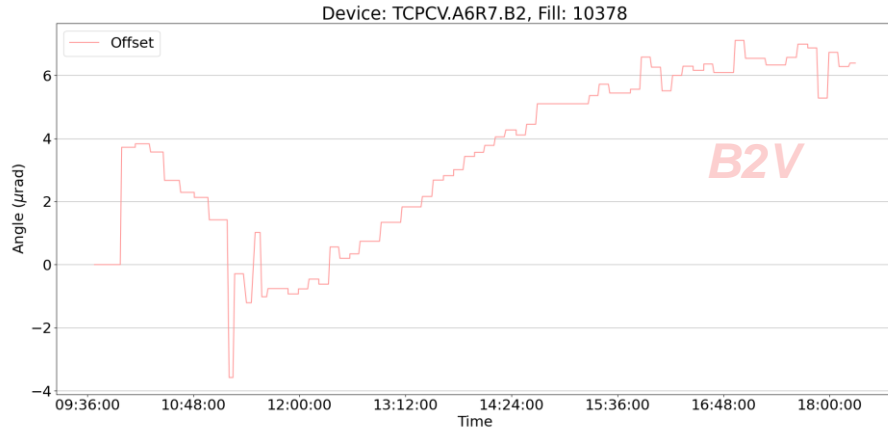
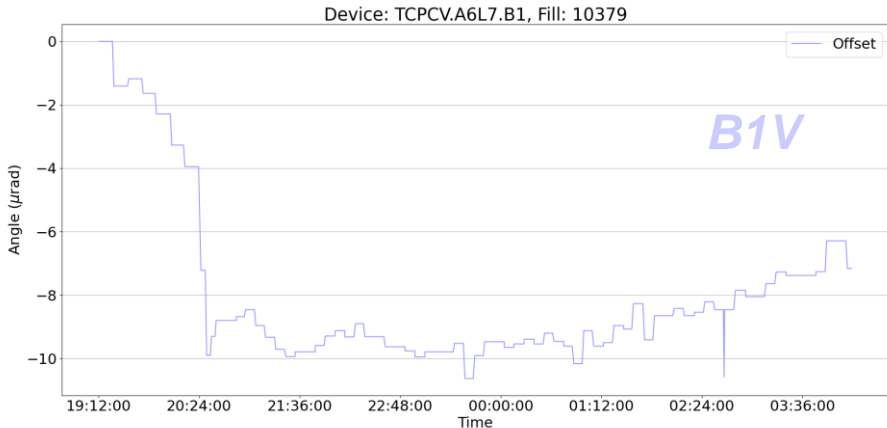
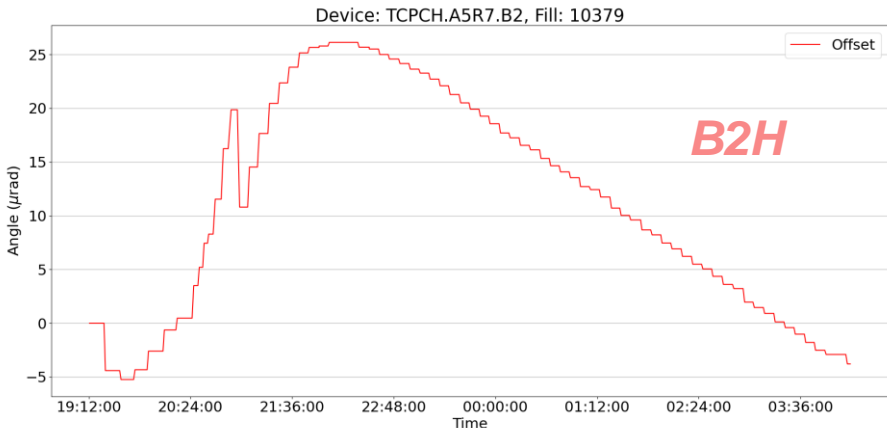
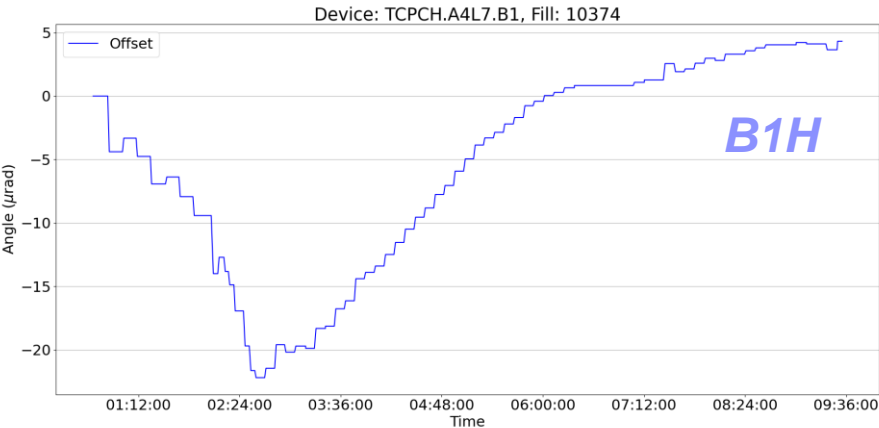
Some room for **improvements** (still to be quantified):

- **ML** aided optimization
- **Adaptive time** between optimizations

**Can we accept that for ~8% of the time each plane cannot guarantee target cleaning performance?
To be balanced with efforts needed to understand and fix root cause – strong synergy with PBC studies**

Offset trend overview

Quantitative assessments
at CWG #286



Main qualitative considerations:

- **All devices** show a trend compatible with a **warm-up → cool-down** process, **as observed in 2023**



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