JAP2023 Session 5 Follow-up

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Outstanding choices for 2024 machine configuration

More fundamental changes

- **Further squeeze to 20 cm in the separation plane?**
- **Decision for partial RP optics**
  - Main advantage is the reduced dose on D1; to be balanced with experiments' wish not to make too many changes
    - Triplets can be saved with full RP in 2025
  - What is the cost of losing D1?
  - Overhead in commissioning time with full RP in 2025: 4+4 days or 0+7 days
    - Is partial RP for 2024+2025 an option?

Fine-tuning of present operational cycle

- **Combine the LHCb rotation with the adjust?**
  - Stephane: start collide at 2 m already?
- **Interest to test wires in operation at (20-)30cm**
  - However, requires testing in MD before

Beam type

- **Beam type and performance estimates**
  - 36b standard vs hybrid
  - Cryo reconfiguration -> can tolerate a bit more heat load
- **Could spend some time with each of the beam type (hybrid, standard and BCMS) in the same, stable LHC machine configuration to compare emittance and performance**

Ions

- **Action plan for 2024 ion run to be shown in Chamonix**
- **Follow-up of BLM threshold optimisations needed for next ion run**
  - Flatten energy curves in the ramp (avoid dip?)
  - Adjust the fast running sums
- **Understanding and analysis of 10 Hz losses and mitigations to be defined**
  - Studies of correlation to cryo valve ongoing
- **Wish to perform ion loss maps earlier to have more time for analysis**
  - Not easy, would require moving the ion commissioning earlier, too
- **Follow-up of the angular drift for the crystal collimators**

Commissioning

- **Can more commissioning items be moved from equipment expert to OP?**
  - What are the limitations and risks?
- **Cannot squeeze the commissioning time anymore**

RF power follow-up

- **Start-of-ramp thresholds to be revised to potentially overcome RF power limitations at injection**

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