



Beam Gas Curtain Monitor Preparation for 2025 run

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BGC collaboration meeting,
May 2023, CERN, Geneva, CH

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Status

- Where do we expect to be end 2024:
 - Sufficient data both for ions and protons with Neon and 0.3 mm wide skimmer, no more advancements expected without changing the parameters
 - Flat top
 - Injection
 - Ramp
 - Beam size comparison/difference understood comparing to BSRT and wire scanner measurement

Options to prepare for 2025 run

- Please add!-

■ On BGC itself

- Change skimmer to smaller skimmer, 0.2 mm? Shorter?
- Optics?

■ On the environment

- Add pumping (Ion Pumps) to reduce local background on either side of BGC
- How to reduce synchrotron light? → Beam vacuum opening
- Reduce noise in camera? Shielding?

■ Change of gas

- Candidate gases are Argon and Nitrogen → need CERN internal discussions and approval. Better to start the process soon.
- Need to install significant Ion Pumping (and NEG pumping?) close for the BGC? Details to be evaluated. Some installation for pumps, cabling, controls → cost but no showstoppers.

Purchase and Documentation

■ Engineering Change Request

- Ideally before May 2024 to allow to for production and procurement.
 - Change of beam pipes and warm modules?
 - Cabling requests

■ Procure

- Gas and the connectors (Neon, Nitrogen, Argon)
- Skimmers
- Ion Pumps (assume 10 KCHF/unit + controllers)
- NEG Pumps (assume 10 KCHF/unit + controllers)
- Cabling (assume 3 KCHF per cable)
- Tubes and WMs (15 KCHF?)

Summery

- Many options for run 2025
- How can we reduce the options?
- Options with “only” BI and the CERN vacuum group involved easier
- Change to Nitrogen (or Argon) will need detailed preparation and documentation



Thank you!

