GIF++ : Operation in 2021

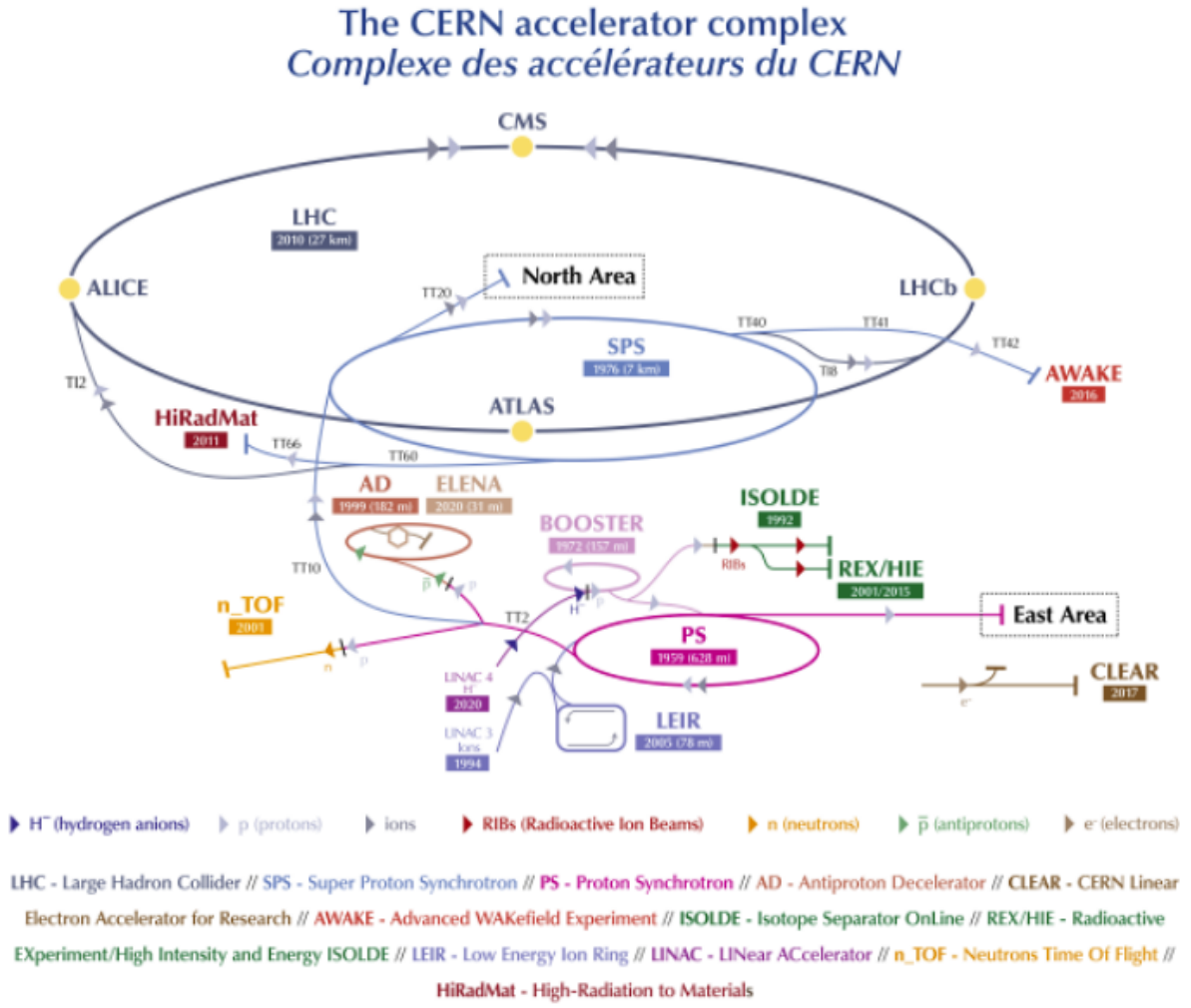
N. Charitonidis

November 2021

CERN, BE-EA

*"Nikos, can we have **MORE** muons?"*

CERN Accelerator Complex



Ref: CERN-GRAPHICS-2019-002

SPS : protons/ions @ 400 GeV/c

Maximum momenta available to the users in the SPS Test Beam Facilities :

North Area → ≤400 GeV/c (primary beam)
or ≤ 380 GeV/c (secondary beam)

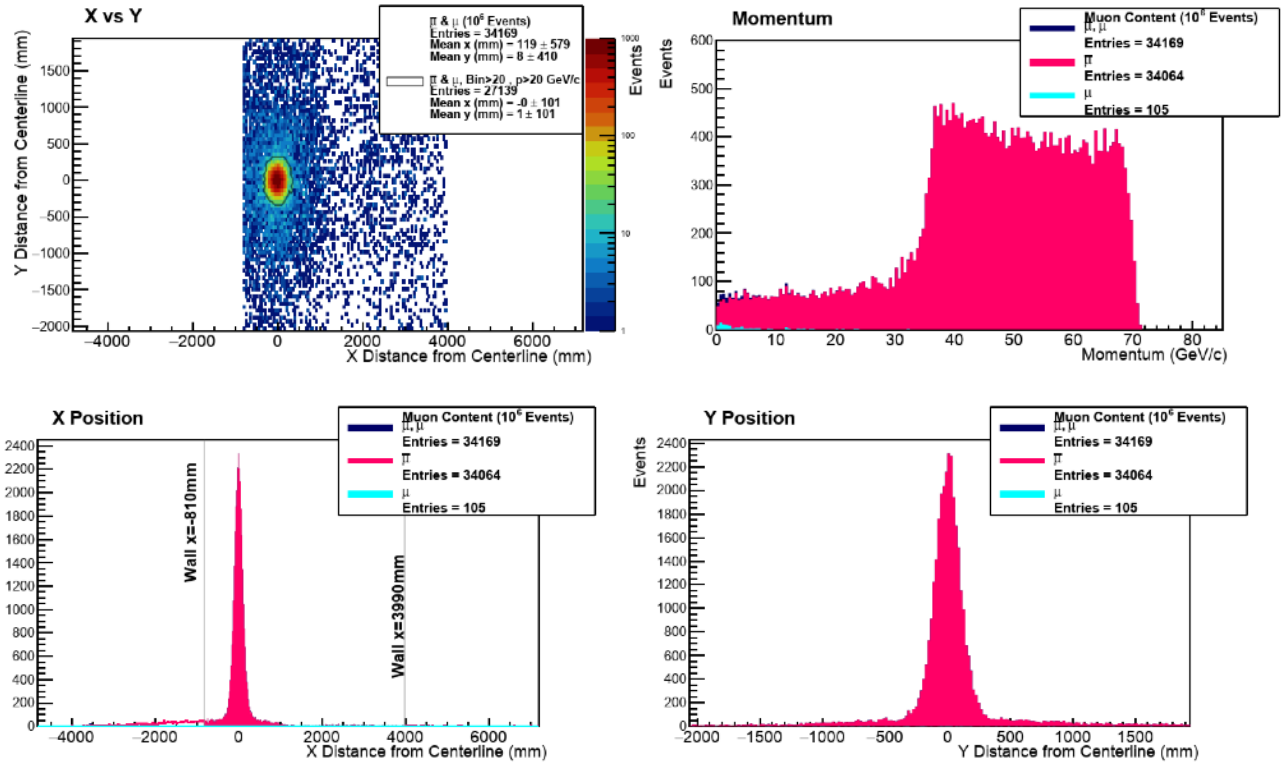
Mixed hadrons or pure electrons

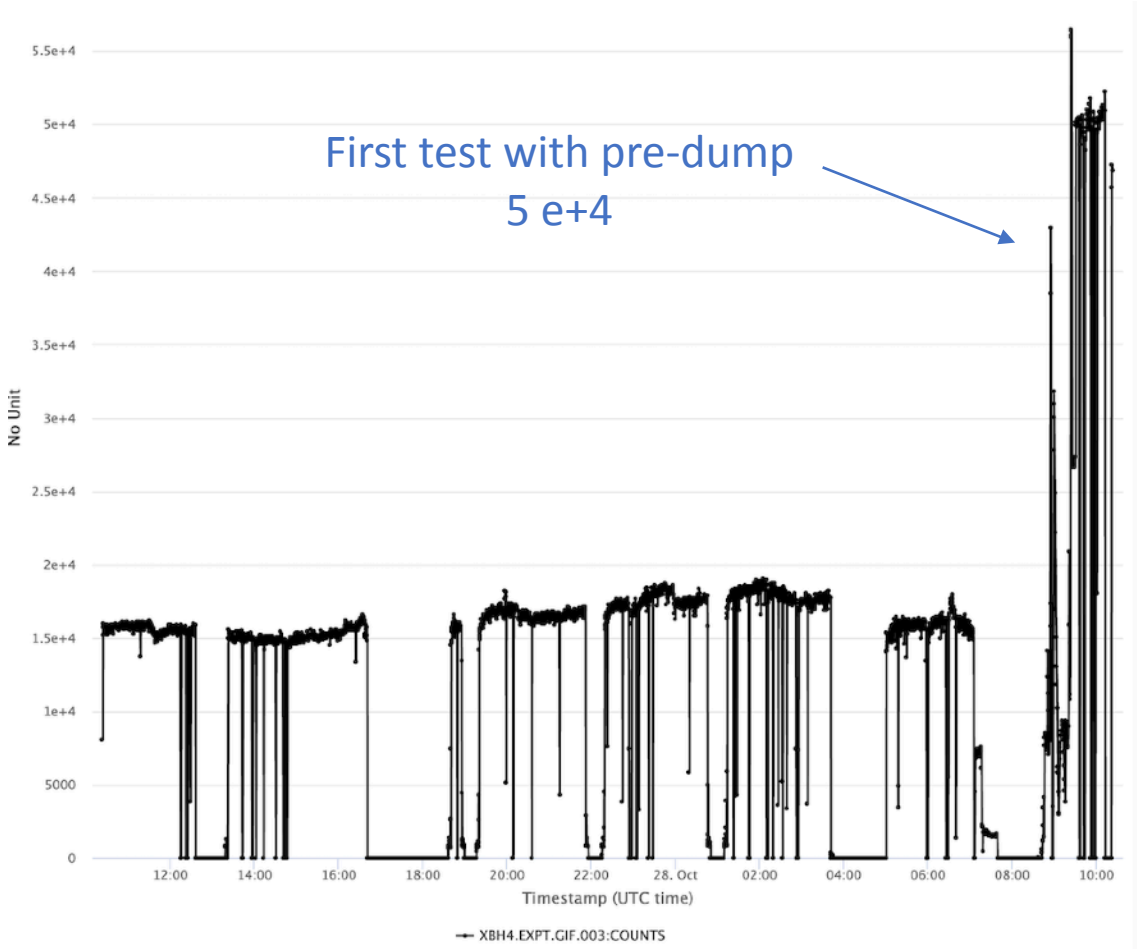
New in 2021 : “Pre-dump”for GIF++

- Two new beam dumps in front of GIF++
- Unfortunately the mobile table that we had planned in order to be able to easily change this configuration broke during the commissioning
- The new dump can be manually moved out of the beam for hadrons / electrons @ PPE164
- **Commissioned Oct. 2021**

Monte-Carlo comparison

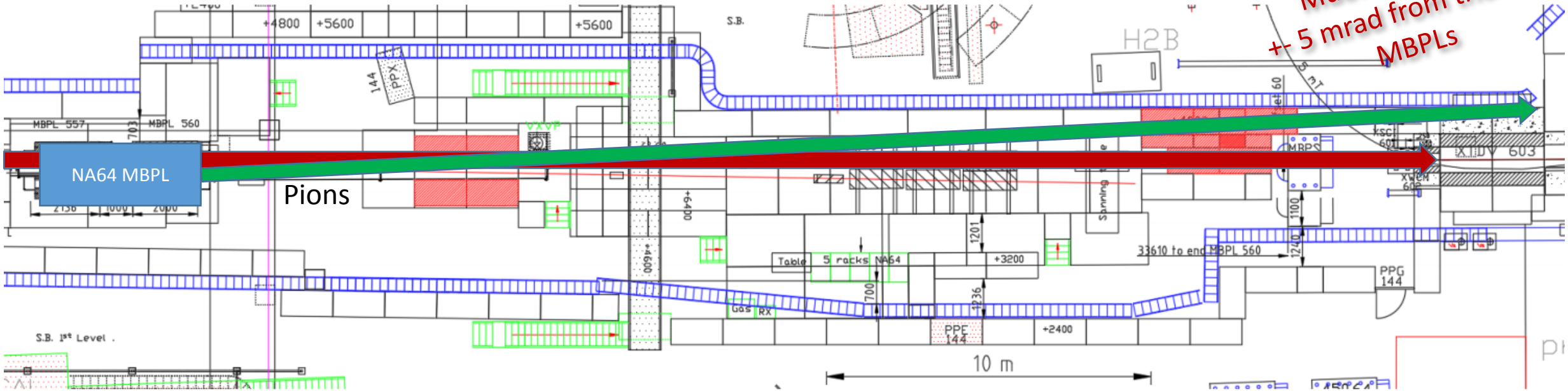
- New Configuration (80 GeV) **from 2021**





Better defined momentum and more ‘focused’ beam

Scanning of the muon beam with NA64-e MBPLs possible for GIF++ users.



Conclusions

- Following the GIF^{++} extension, a re-organization of the upstream zone and the installation of a proper muon dump has been completed
- The new beam dump has greatly improved the beam conditions in GIF^{++} and has allowed a decoupling between PPE134 and PPE154
- Possibility of using the **two bends** has been made available.
- No interference with NA64 new zone, no extra material added in the beam line.
- Looking forward for rich physics program in GIF^{++} !

Contacts and Support

- CESAR training, patrol rights training…. :
  →B. Rae (167388)
- Beam quality, focus/defocus/intensities….
  →N. Charitonidis (169887) or B. Rae (167388)

- In case of an issue outside working hours (“no beam”, “no muons” ..)
  →Please call the CCC (77500). They will judge if they will call us.

→GIF++ operation: An excellent collaboration between EP-DT and BE-EA !

Thank you !

Questions ?