





GIF++: Operation in 2021

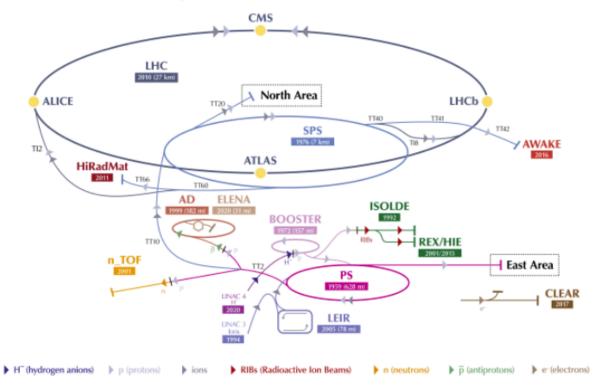
N. Charitonidis
November 2021
CERN, BE-EA

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



CERN Accelerator Complex

The CERN accelerator complex Complexe des accélérateurs du CERN



LHC - Large Hadron Collider // SPS - Super Proton Synchrotron // PS - Proton Synchrotron // AD - Antiproton Decelerator // CLEAR - CERN Linear
Electron Accelerator for Research // AWAKE - Advanced WAKefield Experiment // ISOLDE - Isotope Separator OnLine // REX/HIE - Radioactive
EXperiment/High Intensity and Energy ISOLDE // LEIR - Low Energy Ion Ring // LINAC - LINear ACcelerator // n_TOF - Neutrons Time Of Flight //
HiRadMat - High-Radiation to Materials

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 \rightarrow \leq 400 GeV/c (primary beam) or \leq 380 GeV/c (secondary beam)

Mixed hadrons or pure electrons



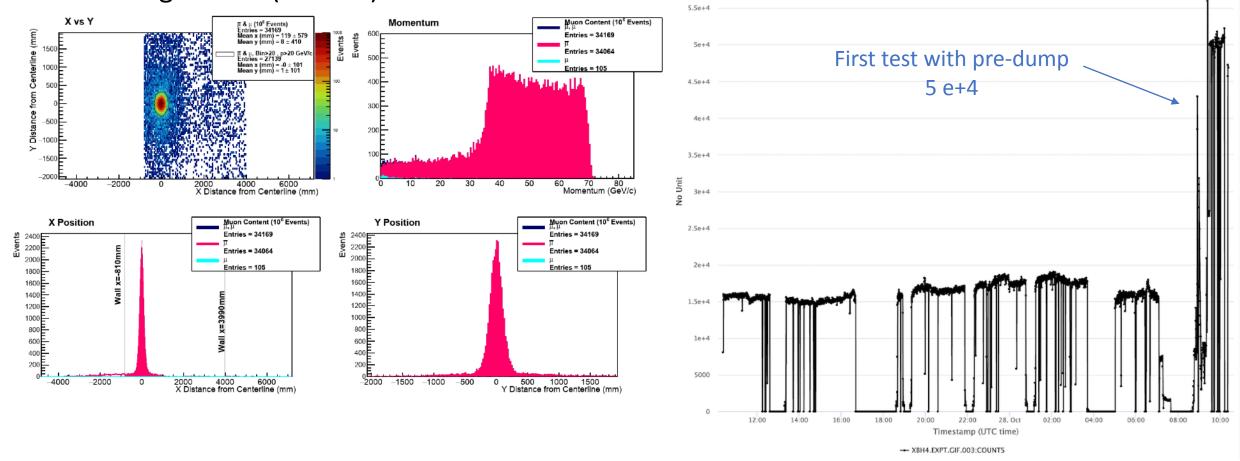
New in 2021: "Pre-dump" for GIF++



- 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

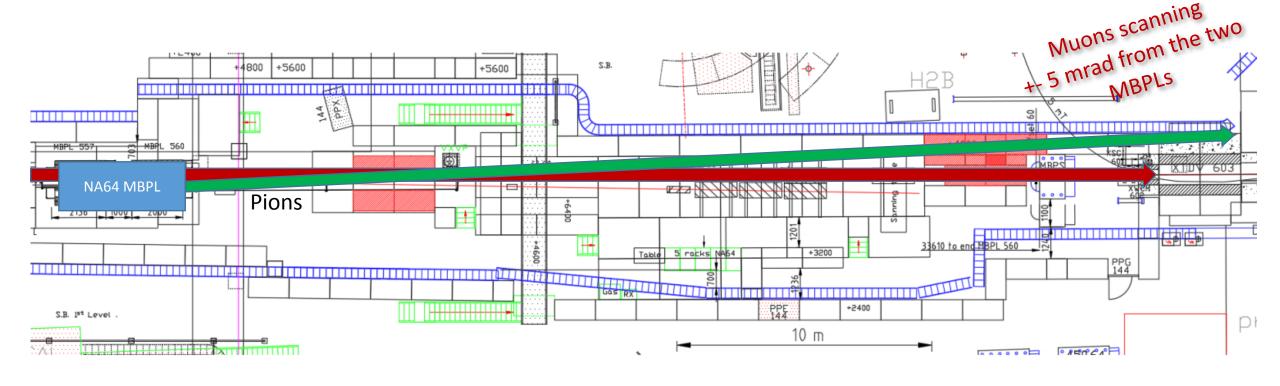


Better defined momentum and more 'focused' beam





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?

