



H8 users meeting

Starting up in Spring 2022

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H8 General Information

- **Flexible and modifiable beam options**

- Available momenta : $<10 - 400 \text{ GeV}/c$
- Magnetic spectrometers with maximum dp/p : 0.1%-1.5 % (apart from muons)
 - Separating momenta and not particle species !
- Primary protons or ions
- Mixed hadron
- Low-purity electrons (measurement courtesy of TileCal 2021)
- Tertiary muons (low and wide band)

Energy (GeV)	Electron Fraction (%)
10	53.8
20	26.0
30	11.7
40	5.6
60	2.1
80	1.8
100	1.1

- **Spill duration: flat-top ~4.8 s for protons, 9 s for ions, 1-2 spills / supercycle, ~3000 spills / day**

- Rates @ your detector : a few hundred particles/spill – $1E7$ particles /spill
 - RP and other limitations may apply

Contact Persons for H8

- **Responsible liaison physicists**

- A. Gerbershagen (until 1.5. on site, until 1.7. part-time remotely) (a.ge@cern.ch, 162259)

- J. Bernhard (from 1.5. on site) (johannes.bernhard@cern.ch, 164896)

- Beam composition, intensity, spot-size, vacuum, Cherenkov gases, general layout possibilities, beam tuning

- **Beam line support → B. Rae**

- CESAR training, patrol rights training, beam control, file loading, beam tuning

- **In event of our simultaneous absence :**

- D. Banerjee, A. Baratto Roldan, N. Charitonidis

- **Technical support → See presentation of M. Lazzaroni !**

- “I want help with transport”, “I need a special table”, “my zone has less blocks than last year and I need them”, “something is broken in the zone”

What about after hours?

- At **weekends** or **nights**, we always check our e-mails and there is a (quite) high probability to pick-up the telephone also.
- However, most of the times, the CCC can also help you tune the beam or solve most of the issues. If they fail, and if the need is imperative, they will give us a call.
- Please **first call the CCC (77500)**



Beam line & machine limitations

- **H6, H8 and P42 share the same target**
 - In general *strong coupling* between the momenta of H6 and H8
 - Standard setting: +180 GeV/c in H8 and +120 GeV/c in H6.
 - This is the reason we need to know in advance your schedule and discuss !
 - This meeting but also every Thursday after the users meeting.
- **Moreover :**
 - SPS machine has its own limitations, MD's, Q-ripples etc → *May* have some impact on your beam quality
 - Especially for primary beams.
 - Proton content and spot size in low momenta (<30 GeV) beams is small (15%) and big (10 cm) in both planes
 - Not many things to be done (physics boundaries).
- **However : Many times many workarounds can be found, and many possibilities exist. Keep us involved and informed in your experiment !**

Summary

- We are looking all forward the startup in 2022 !
- Communicate with us as early as possible worries, issues, details so that we can identify and mitigate all showstoppers.

