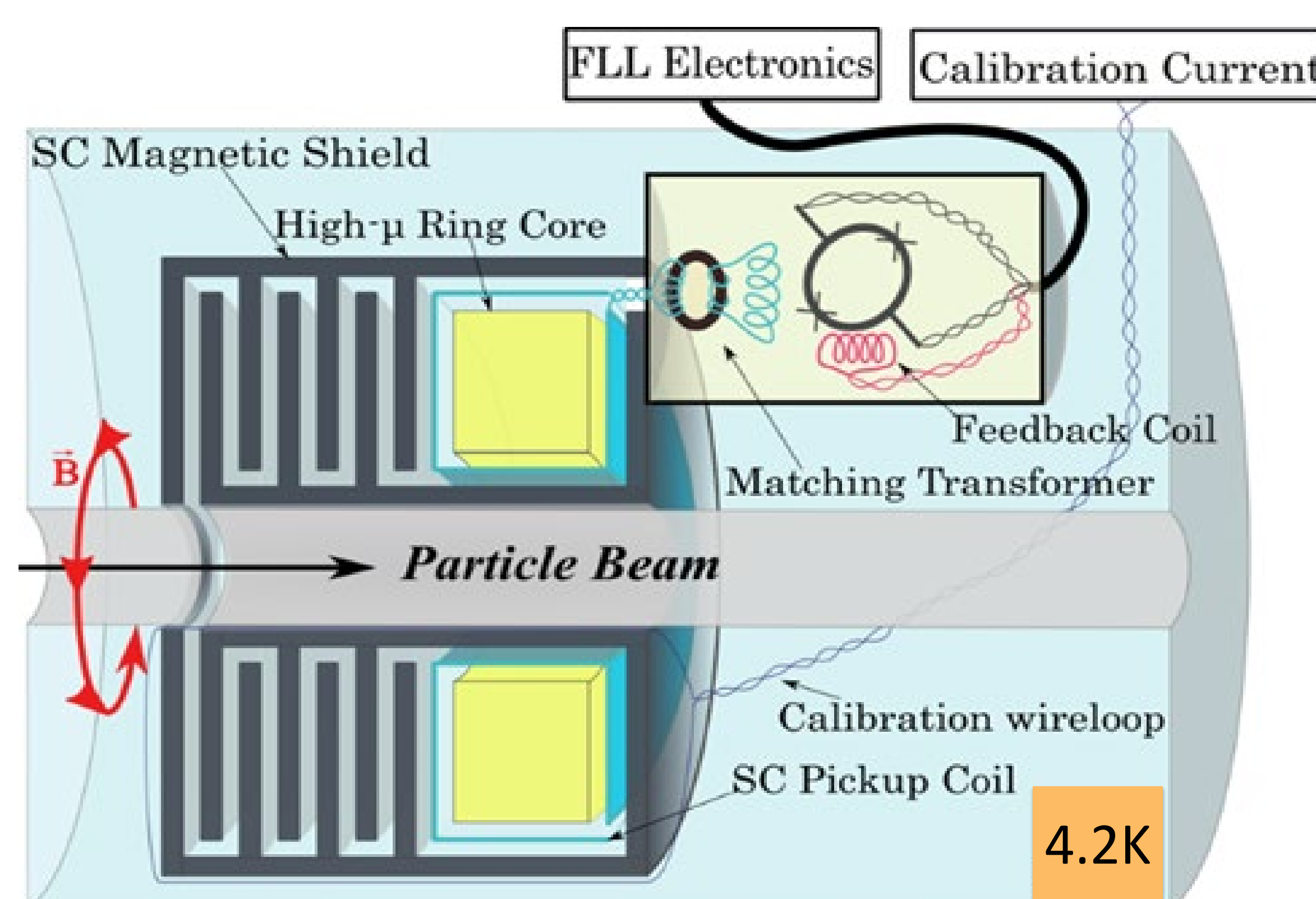


Cryogenic Current Comparators from Lab to Beamlines

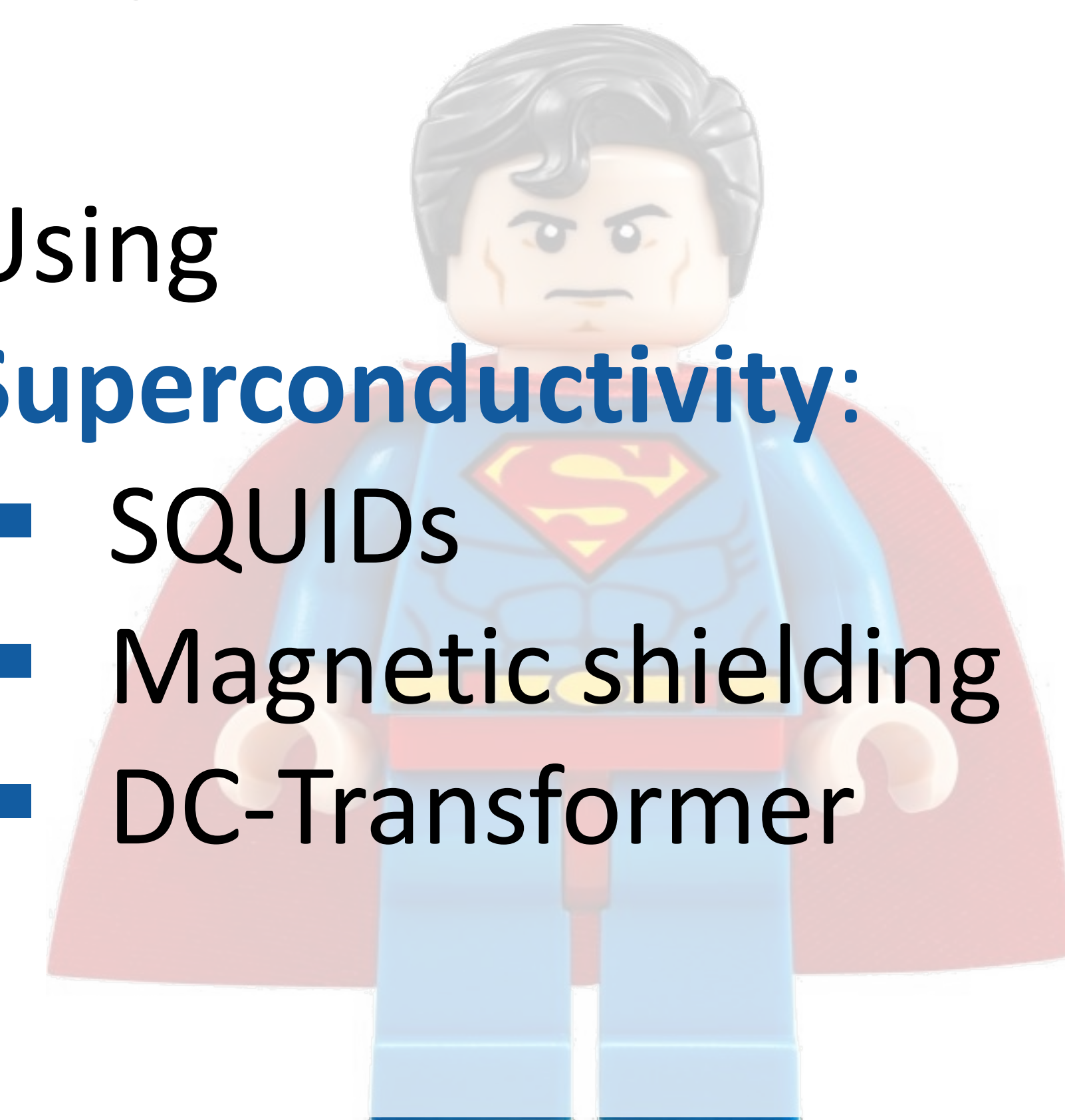
Non-destructive beam intensity measurement

- nA range
- AC/DC
- Absolute



Using
Superconductivity:

- SQUIDs
- Magnetic shielding
- DC-Transformer



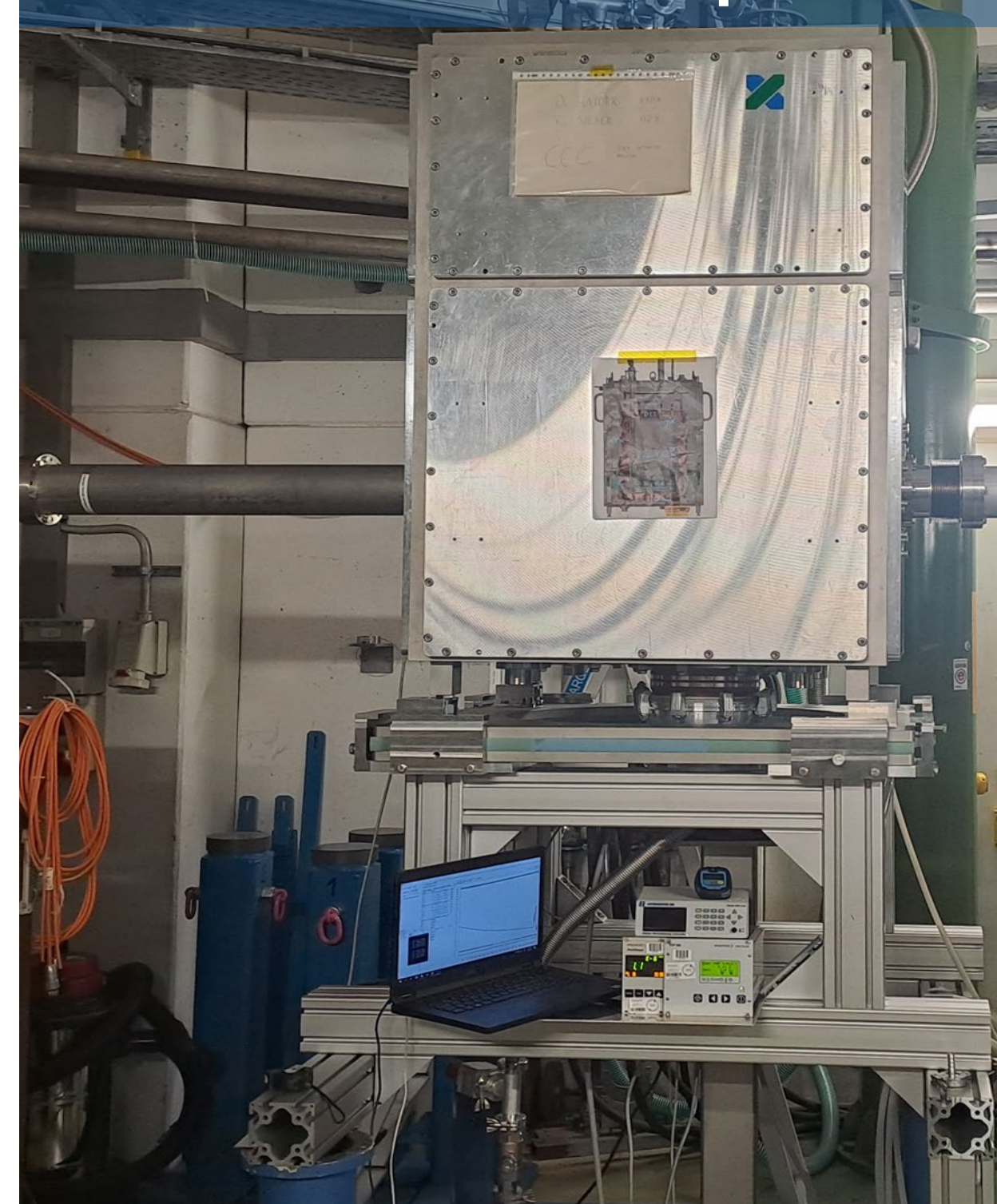
Past and present

All CCC sensors created in Jena
@ Cryo Detector Lab [1]

SIS18 Transport Section

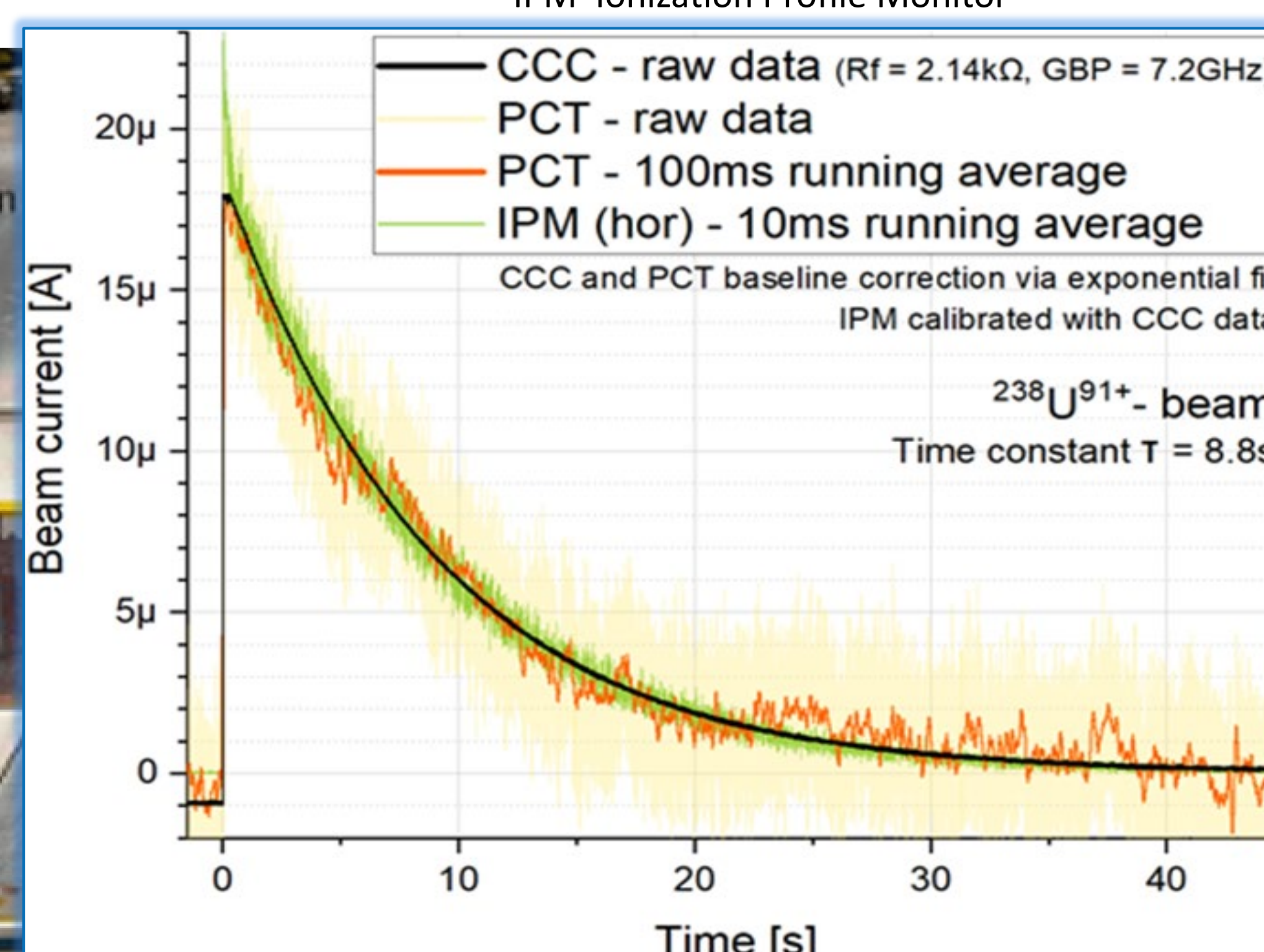
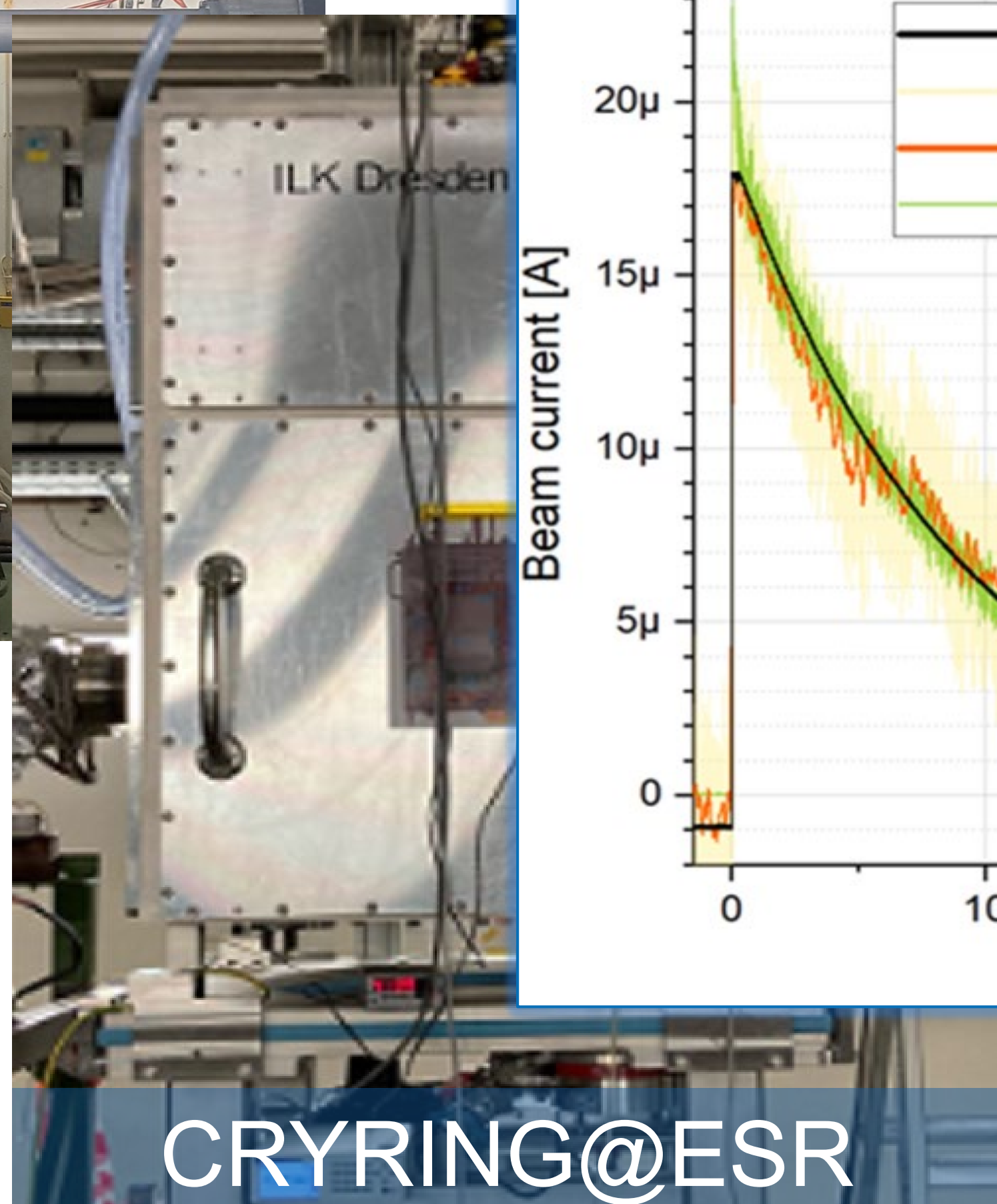
FAIR versions

2021 Testing
Nb-CCC-xD [2]



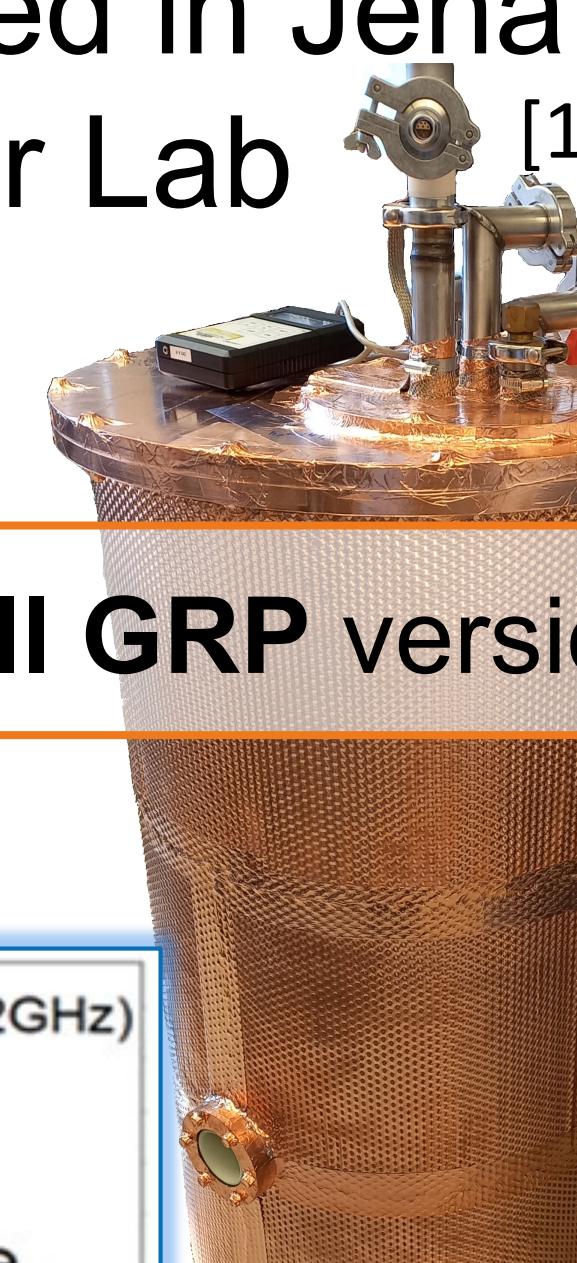
2023 Testing
Nb-CCC-xD

2024 Testing
Pb-DCCC-xD #1 [3]



CRYRING@ESR

Small GRP versions



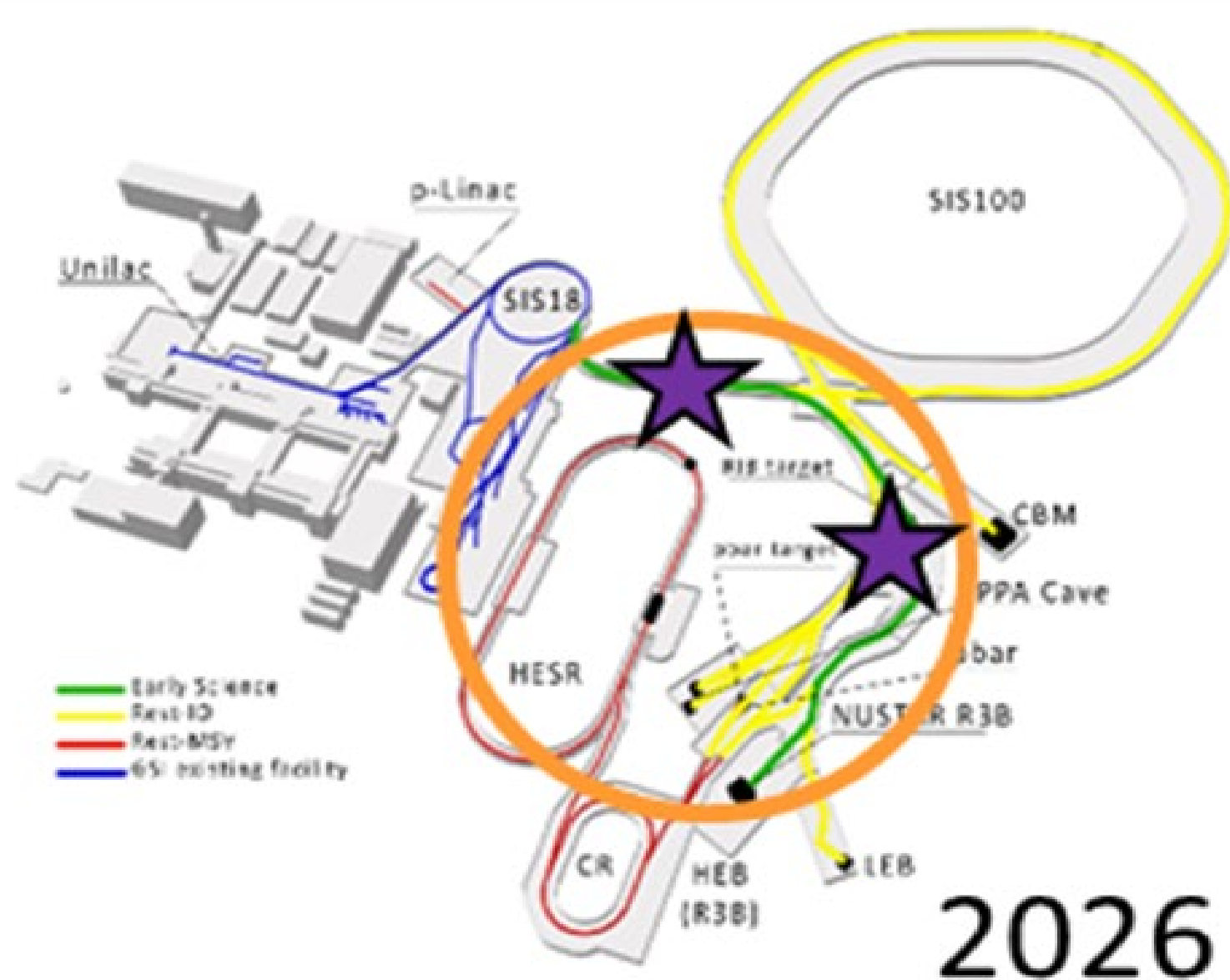
Friedrich-Schiller-Universität Jena	
211 Helmholtzweg 5	
Physikalisch-Astronomische Fakultät	
Institut für Festkörperphysik	
Angewandte Physik / Festkörperphysik	
Ultraschnelle Optische Spektroskopie	
Physik Dünner Schichten	
Helmholtz-Institut Jena	HI JENA
Cryolab	Helmholtz-Institut Jena
Otto-Schott-Institut für Materialforschung	
TEM	
Wissenschaftliche Werkstätten	
Feinwerktechnik 2 · Tieftemperaturservice	
Eingang Hörsaal 2	↑
Eingang JENOPTIK-Hörsaal	→
Zugang über den Hof	←

CERN versions

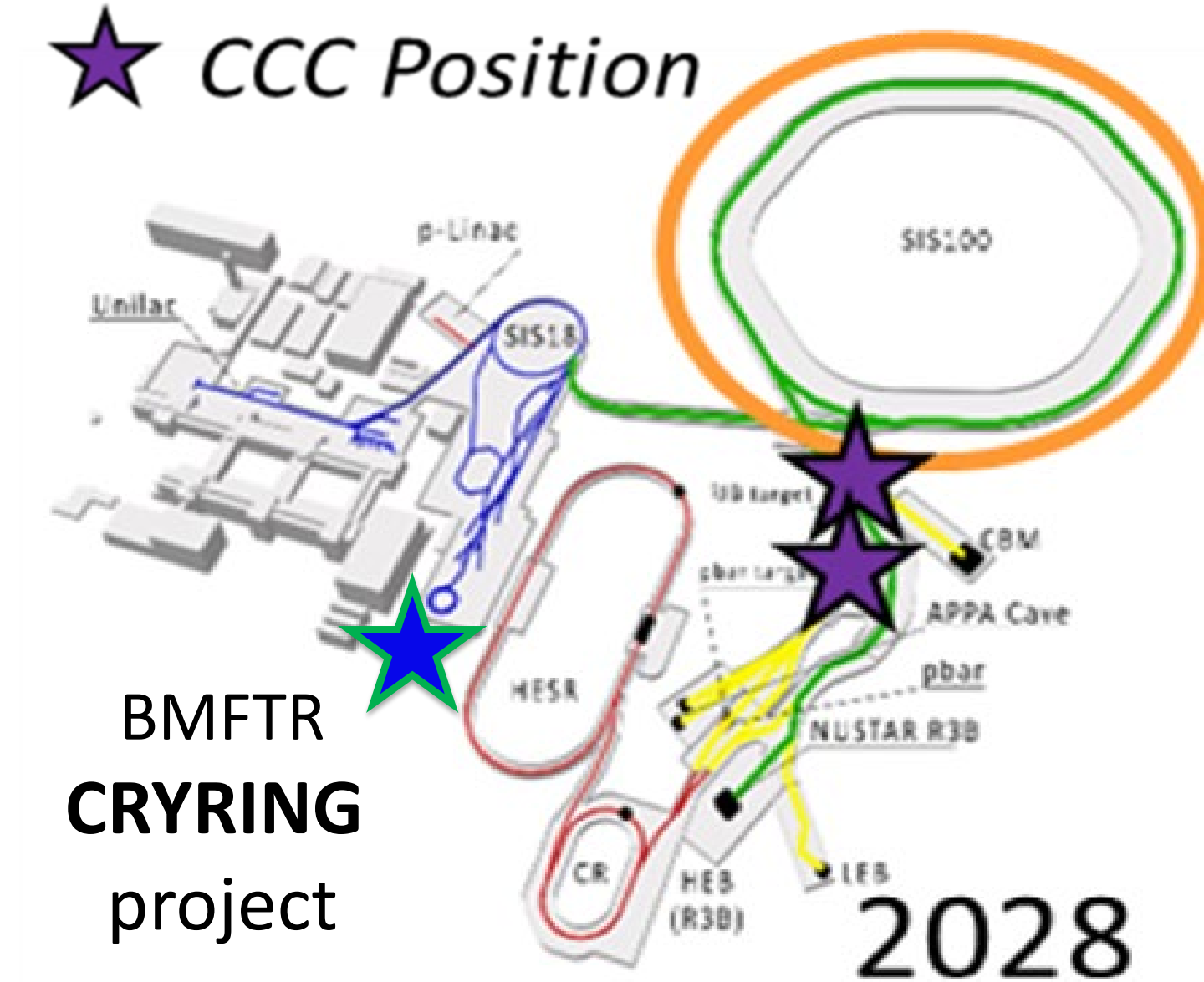


since 2017 running in beam CERN-Nb-CCC #1 [4]
Antiproton Decelerator (AD)

Future

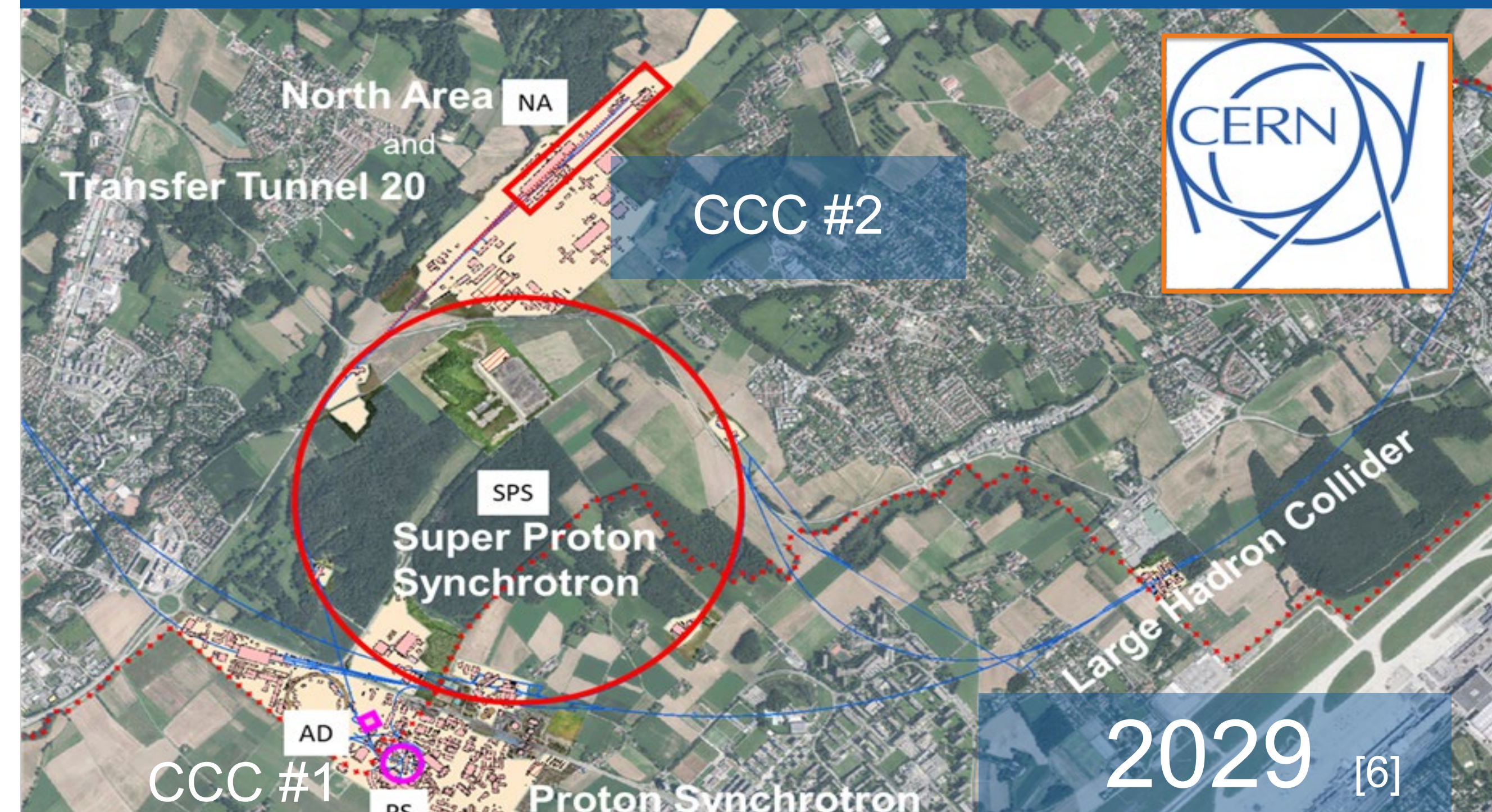


Early Science



First Science

TT-20: SPS to North Area



PhD thesis:
Other references:
BMBF funding:

[1] M. Stapelfeld 2022, [2] D. Haider 2023, [3] L. Crescimbeni in progress, [4] M. Fernandes 2017
[5] T. Sieber CCC Workshop @CERN 2024, [6] J. Tan, IBIC'24
05P15RDRBB, 05P18SJRBB, 05P21SJRBB (Uni@Jena); 05P24SHA (UAS@Jena)