

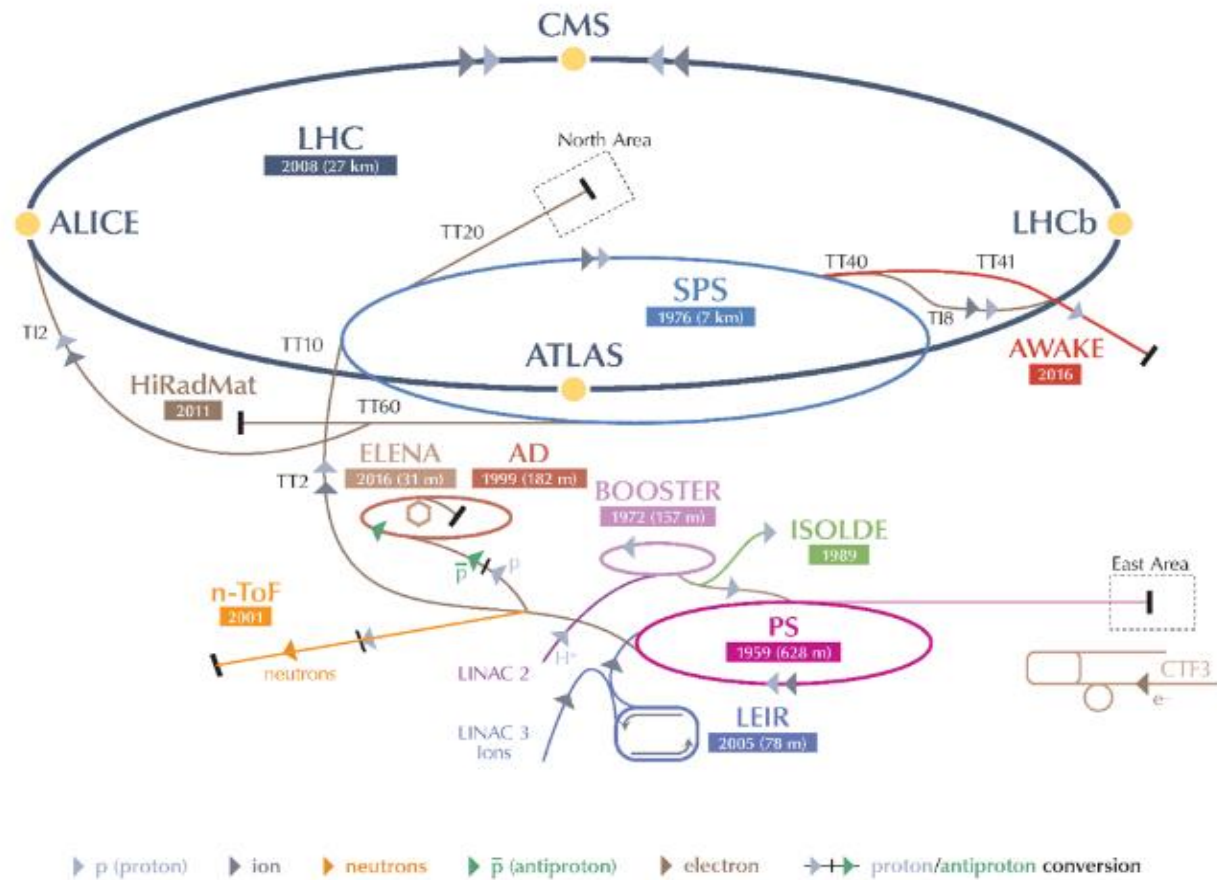




PULPOKS 2023

CERN participants

CERN's Accelerator Complex



LHC Large Hadron Collider SPS Super Proton Synchrotron PS Proton Synchrotron

AD Antiproton Decelerator CTF3 Clic Test Facility AWAKE Advanced WAKEfield Experiment ISOLDE Isotope Separator OnLine DEvice

LEIR Low Energy Ion Ring LINAC LINear ACcelerator n-ToF Neutrons Time Of Flight HiRadMat High-Radiation to Materials

Today's participants are all from the Accelerator Beam Transfer Group

Scope: Development, construction, operation and maintenance of kicker, septa and associated electronics.

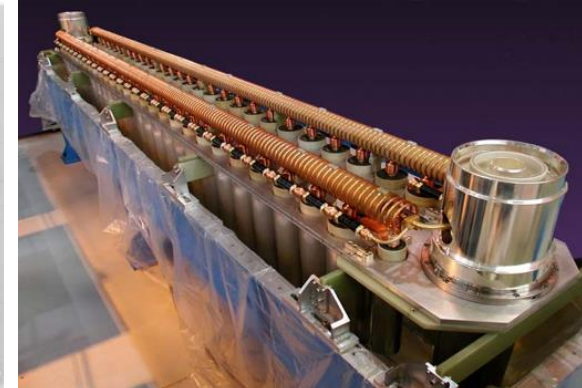
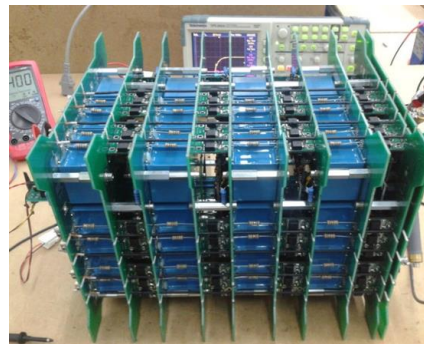
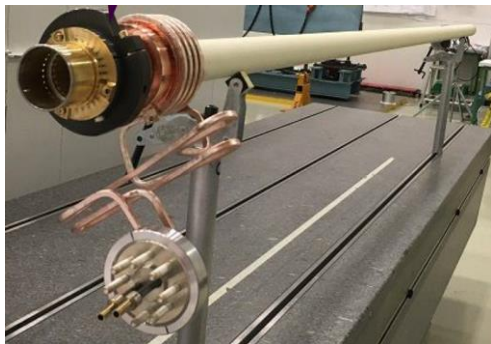
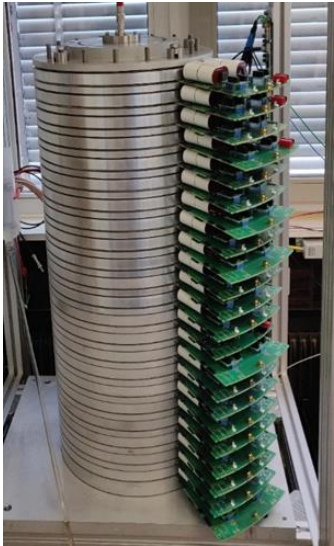
6 Sections in the group:

- Beam Transfer Physics (BTP)
- Beam Transfer Controls (BTC)
- Beam Transfer Electronics (BTE)
- Septa (SE)
- Pulsed Power Engineering (PPE)
- Kicker Design & Construction (KDC)

CERN SY-ABT Kicker Activities



- **Designed, produced and operates over 80 kicker systems** in the accelerator complex, beam transfer lines between accelerators and up to targets.
- **Rise times** from 5ns (CLIC) to 2.8 μ s (LHC).
- **Pulse durations** up to 90 μ s (typically <1% ripple).
- **Pulsed currents** up to 400 kA.
- **Voltages** up to 80 kV.
- **Competencies** in pulsed power technology, high voltage engineering, mechanical design and production, handling of UHV, testing and maintenance.



CERN's contribution to PULPOKS 2023

1 Talk : Optimization of Beam Impedance Mitigation Measures for HV Reliability in an SPS Injection Kicker Magnet

4 posters : - Marx Generator for Kicker Magnets Power Supply Based on SiC MOSFETs (poster)

- Inductive Voltage Adder for driving Kicker Magnets with a Short-circuit Termination (poster)

- High power electrical contacts for Kicker magnets applications (poster)

- Ultra-fast generator for impact ionization triggering (poster)



Giorgia Favia

Electronics
engineer, PhD,
Joined PPE section
at CERN in 2023



**Konstantinos
Papastergiou**

Electronics Engineer
Joined CERN in
2012



Mike Barnes

Electrical engineer,
joined CERN in
2006, deputy head of
PPE section



**Laurent
Ducimetière**

Electrical engineer,
joined CERN in 1992
head of KDC section



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