

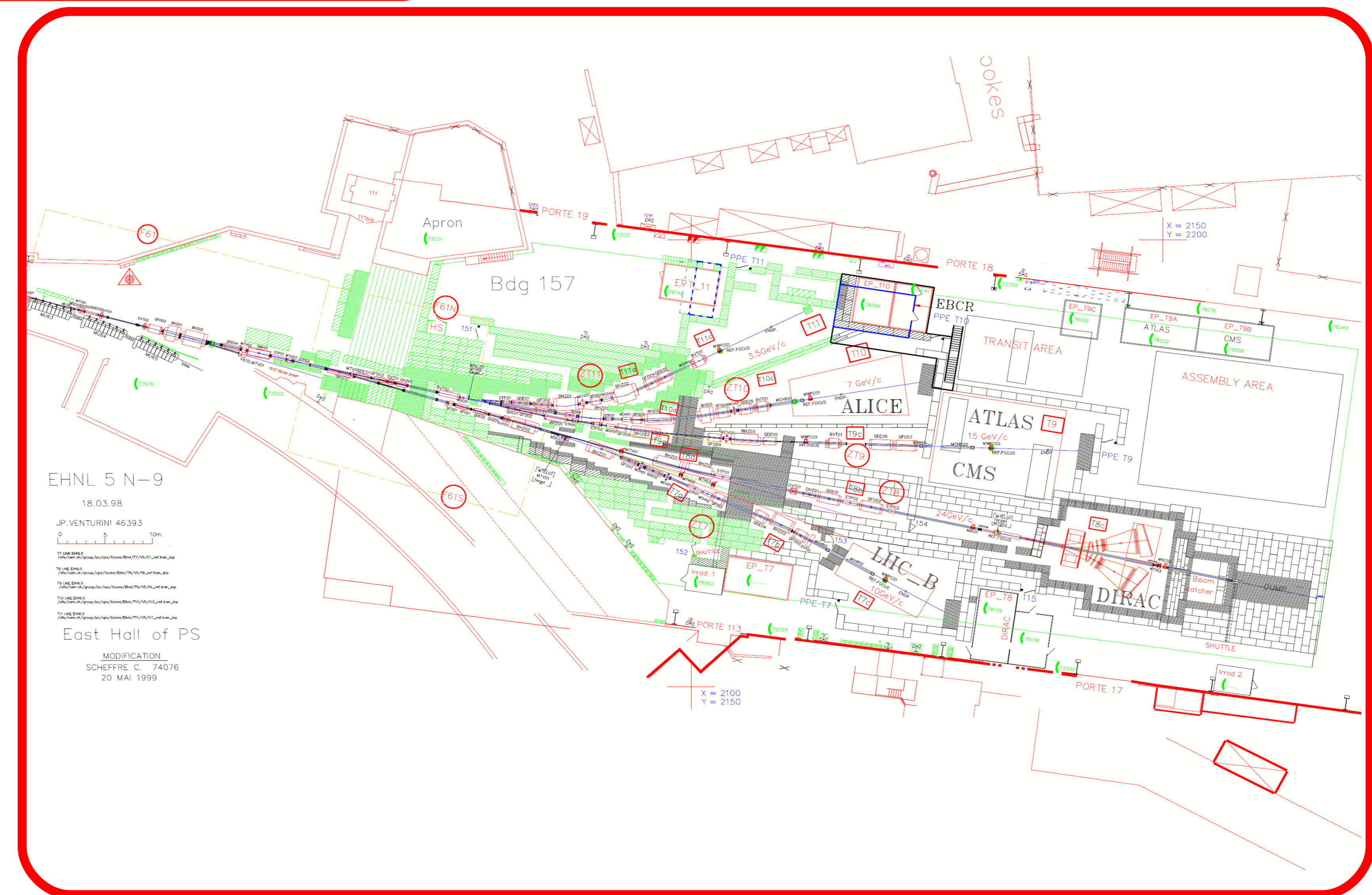
THE EAST AREA AT THE CERN PS

GENERAL LAYOUT

The PS East Area is an experimental area that houses five beam lines, derived from the 24 GeV/c slowly extracted primary proton beam:

- The **T7 beam** can be operated as a secondary test beam with momenta up to 10 GeV/c or as an **IRRADIATION** facility with primary proton beam,
- The **T8 beam** is a primary proton beam line that serves the **DIRAC** experiment with up to some $2 \cdot 10^{11}$ protons per PS cycle,
- The **T9 beam** is secondary test beam with up to 15 GeV/c beam momentum and at 0 mrad production angle,
- The **T10 beam** is a secondary test beam with momenta up to 7 GeV/c and a production angle of 60 mrad
- The **T11 beam** can be used as a low momentum test beam, up to 3.6 GeV/c at 210 mrad, or as a very large spot (almost $2 \times 2 \text{ m}^2$) hadron beam to serve the **CLOUD** experiment.

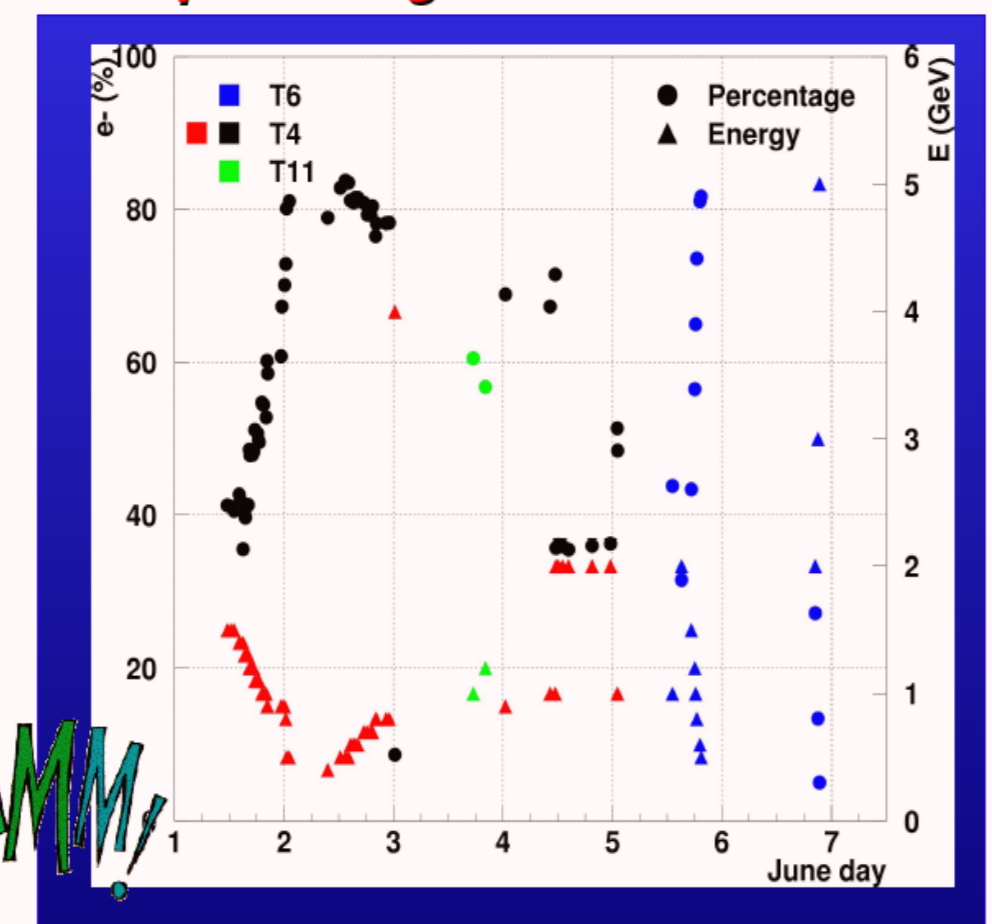
The T9, T10 and T11 beams are derived from the NORTH target, on which $1.5\text{-}2 \cdot 10^{11}$ protons from the F61N beam impinge per **EASTA** cycle. The T7 and T8 beams receive their protons via the F61S branch, directed either directly to DIRAC (**EASTB** cycle) or switched to the SOUTH target or the IRRADIATION facility (**EASTC** cycle).



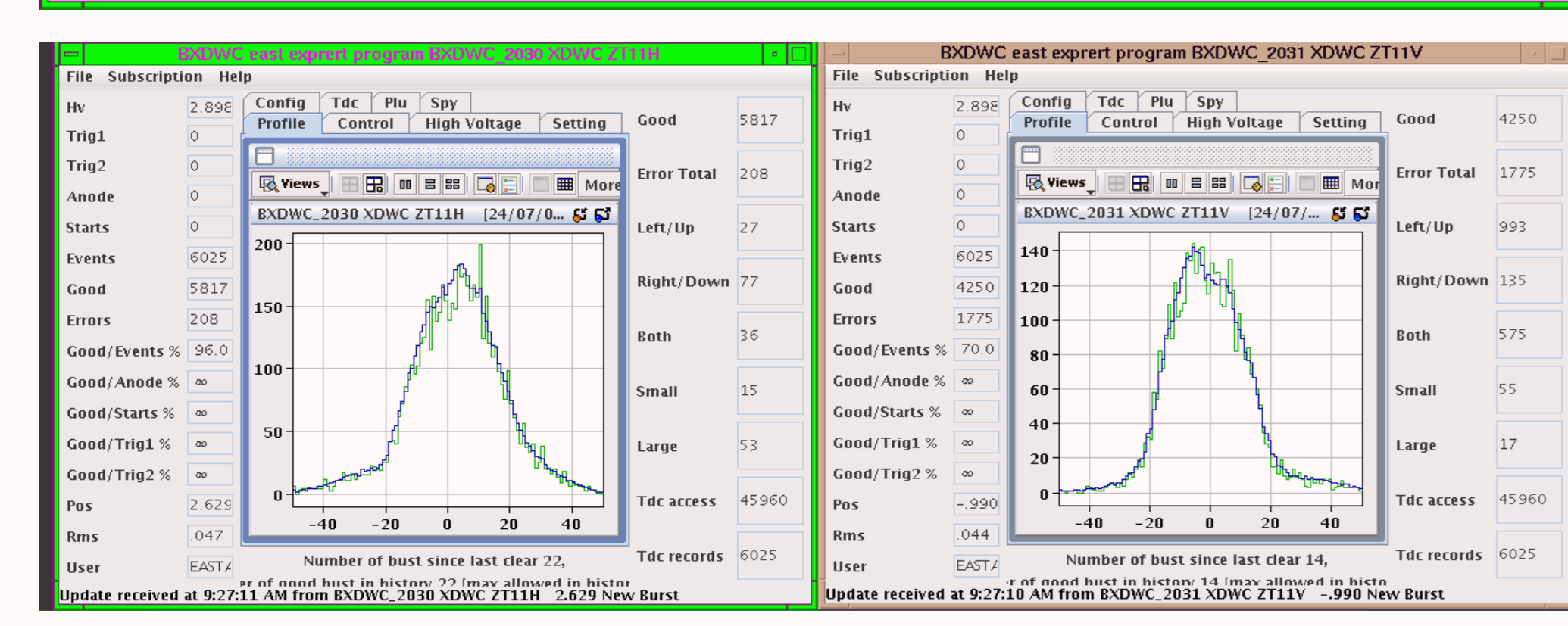
TEST BEAMS

The test beams T9, T10, T11 are derived from a common primary target, the North target. The maximum flux in the test beams is $\sim 10^6$ particles per spill over a flat top of 0.4 seconds. Particle composition depends on the target head used (T4, T6, T11)

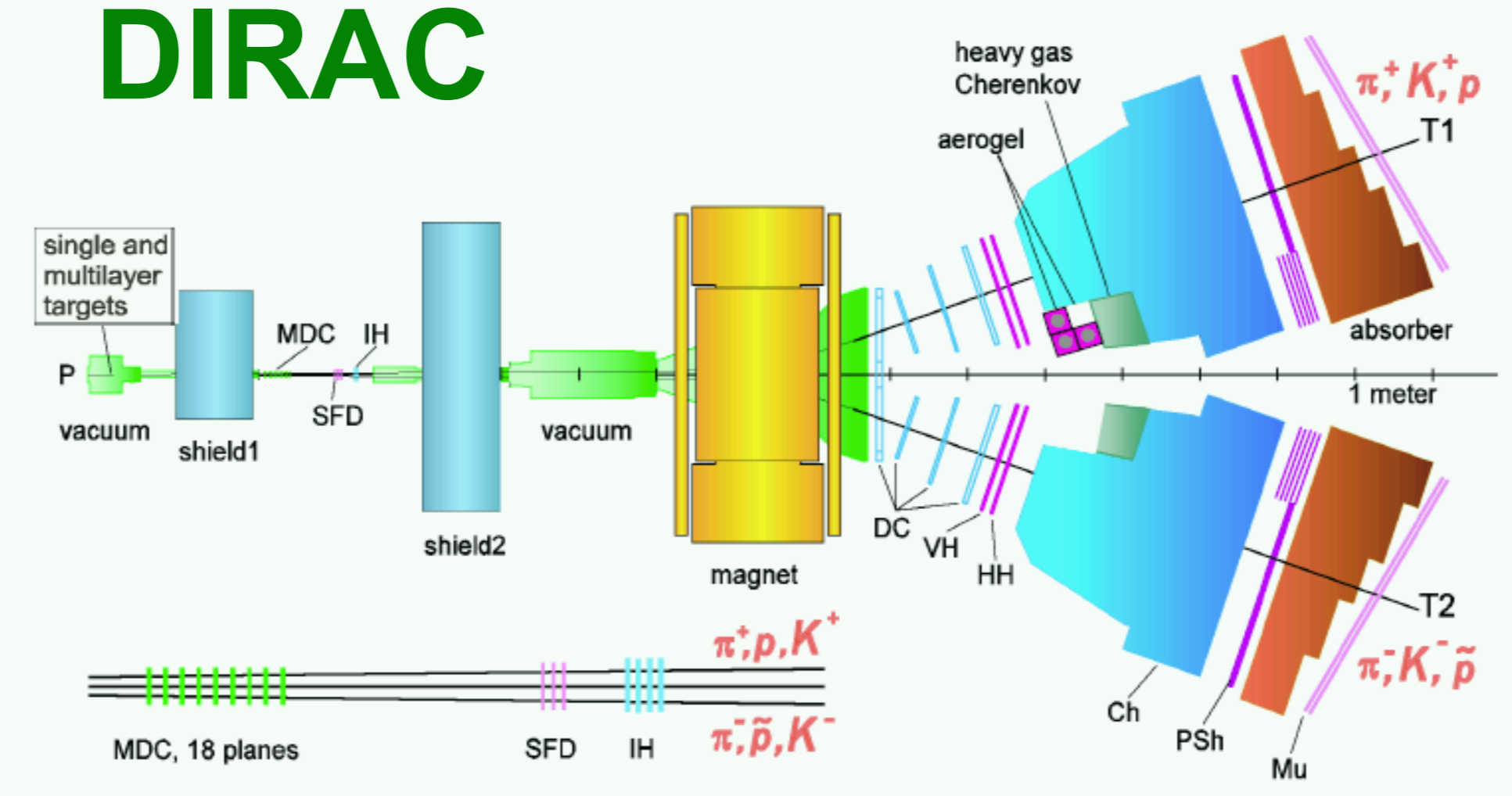
Electron percentage in the T9 beam



Device Name	Equipment Name	Module Name	Position	HV de	Counts	Time of last EE	Uptime	Action
BXSINT_1000	XSCT17.033	SCINT010.1	OUT	-1.734	-1.730	16 17 27 45	000d 06h 22m	click here
BXSINT_1001	XSCT19.054	SCINT010.2	IN	-1.754	-1.750	16 17 27 45	000d 06h 22m	click here
BXSINT_1002	XSCT110.033	SCINT001.1	IN	-1.804	-1.800	16 17 27 45	000d 06h 22m	click here
BXSINT_1003	XSCT111.027	SCINT001.2	IN	-0.128	-1.800	16 17 27 45	000d 06h 22m	click here



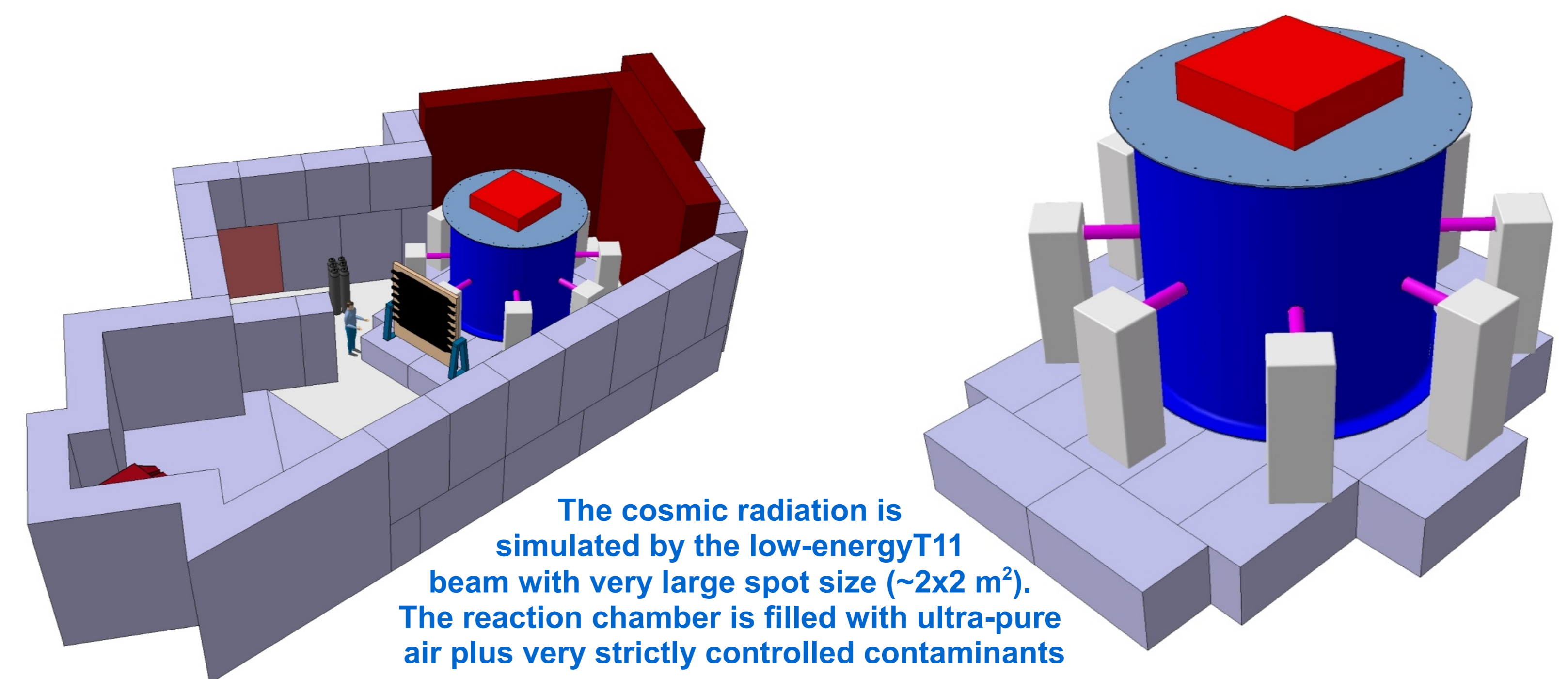
DIRAC



Search for $\pi\pi$ and $K\pi$ atoms, produced by a high-intensity primary proton beam (24 GeV/c) in a very thin target. The decay products of the atoms are measured in a double arm spectrometer and identified by various Cerenkov counters. The lifetime of the atoms as well as the isospin amplitudes a_0, a_2 are measured and compared with very accurate QCD predictions.

CLOUD

Studies correlation between cloud/aerosol formation and the cosmic radiation from the sun (global warming)



The cosmic radiation is simulated by the low-energy T11 beam with very large spot size ($\sim 2 \times 2 \text{ m}^2$). The reaction chamber is filled with ultra-pure air plus very strictly controlled contaminants