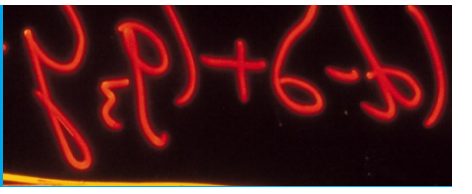
DESY

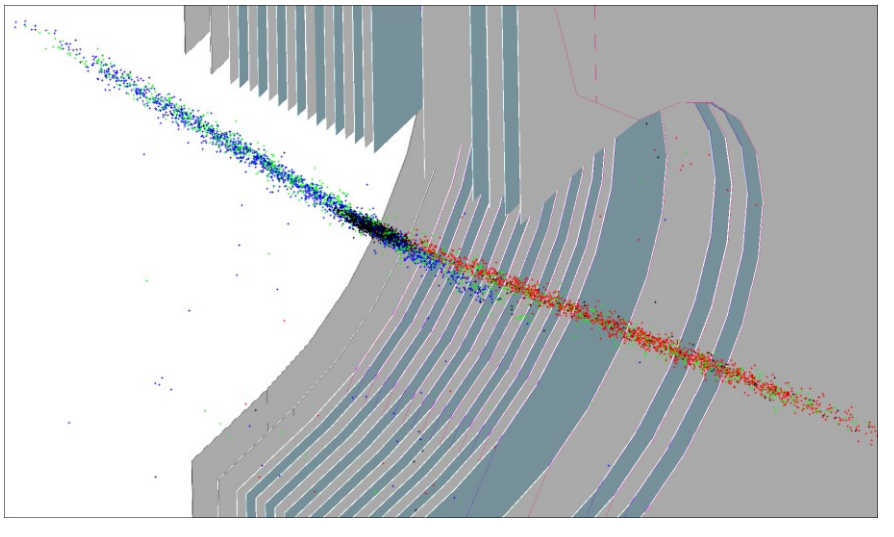
Particle and Astroparticle Physics Colloquium



Fixed target experiments at the LHC.

Tuesday, 18 December 2018, DESY Auditorium,16:45 h

Massimiliano Ferro-Luzzi (CERN)



The Physics Beyond Colliders forum was launched at CERN in September 2016 as an exploratory study aimed at exploiting the full scientific potential of CERN's accelerator complex. Among many other proposals, several were made to perform fixed-target physics experiments at the Large Hadron Collider (LHC), in part encouraged by the first successful results obtained at LHCb using SMOG, a noble gas internal target originally designed to measure the colliding-beams luminosity by reconstruction of the beams overlap. A working group was created to study the feasability and impact of this kind of experiments, which includes solid or gaseous internal targets, with or without polarization, and experiments using bent crystals for halo splitting from the beam core for internal targets. The genesis of fixed-target experiments at the LHC and the status of the feasability studies will be presented.

- **Coffee, tea and cookies will be served at 16:30h**

- **After the colloquium there is a chance for private discussions with the speaker over drinks and pretzels**