



LHC Seminar

SPEAKER: Jacopo Margutti

TITLE: **The Search for QCD Sphalerons and the Chiral Magnetic Effect in Heavy-Ion Collisions with ALICE**

DATE: 7 Nov 2017, 11:00

PLACE: 503-1-001 - Council Chamber

ABSTRACT

In non-central heavy-ion collisions unprecedented strong magnetic fields, of the order of 10^{14} T, are expected to be produced by the incoming protons contained in the nuclei. These fields can be used to detect possible non-conservation of chirality in the QCD sector, a signature of sphaleron transitions. In particular, the interplay of chiral imbalance and magnetic fields results in the separation of positive and negative charges along the direction of the field, a phenomenon called “Chiral Magnetic Effect” (CME). In this seminar, the challenges and the opportunities in the search for the CME and the detection of magnetic fields in heavy-ion collisions will be discussed, with an emphasis on recent ALICE results.