



LHC Seminar

SPEAKER: Michael Andreas Winn

TITLE: **Fixed-target and heavy-ion collision results from LHCb**

DATE: 21 Aug 2018, 11:00

PLACE: 500-1-001 - Main Auditorium

ABSTRACT

Thanks to LHCb's instrumentation of the forward rapidity region, data taken both as part of its fixed-target programme and during ion collisions enable unique studies that shed light on cosmic ray physics as well as heavy ion physics. We present the first measurement of antiproton production in proton-helium (pHe) fixed-target collisions at the LHC, which is an input for the modelling of the antiproton flux measured by AMS, and the first measurement of charm production in pHe and pAr fixed-target collisions at the LHC, which is of interest both for discussions of intrinsic charm and as a baseline for future ion-ion collision studies for quark-gluon plasma physics. Using data taken in collider mode, we discuss recent pPb collision measurements of quarkonia and open charm states, which probe nuclear modifications down to low Bjorken- x , and the measurement of J/ψ production in ultra-peripheral PbPb collisions. We conclude by outlining possible extensions with currently available and future LHCb data.