XXIV QUARK MATTER
DARMSTADT 2014

Contribution ID: **529** Type: **Poster**

The ALICE Muon Forward Tracker Upgrade Project

Tuesday 20 May 2014 16:30 (2 hours)

The ALICE experiment is dedicated to the study of the quark gluon plasma in heavy-ion collisions at the CERN LHC. The Muon Forward Tracker (MFT), an internal tracker added in the acceptance of the existing Muon Spectrometer ($2.5 < \eta < 4$), will be part of the ALICE detector upgrade program to be put in place during the LHC shutdown planned for 2019. The precise measurement of the offset to the primary vertex for the muon tracks, allowed by the MFT, will permit for the first time in ALICE the identification of open charm ($c\tau \sim 150$ μm) and beauty ($c\tau \sim 500$ μm) production at forward rapidity, rejecting at the same time a large fraction of background muons coming from pion and kaon decays.

The setup of the MFT is an assembly of circular planes made of Monolithic Active Pixel Sensors (MAPS), to be installed between the interaction point and the hadron absorber of the Muon Arm. The total material budget of the MFT tracking planes, the radiation hardness of their components, coupled with the high granularity of the sensors and the envisaged readout speed, fulfill the conditions for the operation at the energies and luminosities foreseen for the LHC heavy-ion program after 2019. The expected detector performances resulting from realistic simulations of the MFT setup will be shown, together with the various technological issues related to the project.

On behalf of collaboration:

ALICE

Author: VALENCIA PALOMO, Lizardo (Univ. Blaise Pascal Clermont-Fe. II (FR))

Presenter: VALENCIA PALOMO, Lizardo (Univ. Blaise Pascal Clermont-Fe. II (FR))

Session Classification: Poster session

Track Classification: Future Experimental Facilities, Upgrades, and Instrumentation