Contribution ID: **61** Type: **not specified**

Cosmic-ray muon polarization and atmospheric neutrino

The polarization is a key feature of muons. Not only does it affect background events in high-precision experiments such as JUNO, but it also plays an important role in cosmic ray studies. Understanding muon polarization can provide complementary information to constrain atmospheric neutrino flux modeling.
We have developed Cosmic-Ray Muon Spin Spectroscopy (CRmuSR), a scintillator detector, along with Geant4-based Monte Carlo simulations to evaluate the detection efficiency of CRmuSR at various altitudes. Our study will offer a deeper understanding of the correlations between muon polarization and atmospheric neutrinos.

Primary authors: LIU, Hesheng (Sun Yat-Sen University); SUN, Mingchen; TANG, Jian (Sun Yat-Sen University)

Presenter: LIU, Hesheng (Sun Yat-Sen University)