



Contribution ID: 57

Type: **PhD student talk**

Constraints on the χ_{c1} and χ_{c2} polarizations

Friday, 26 June 2020 10:25 (12 minutes)

Hadron formation is a rather complex problem in the realm of non-perturbative QCD and remains an open question in HEP, despite the significant progress recently made through detailed phenomenological studies of several quarkonium production measurements made at the LHC. A new piece in the global panorama of quarkonium production data has recently been added by CMS: the first measurement of the polarizations of P-wave quarkonia. This is the first clear observation of significantly polarized quarkonium production, the χ_{c1} and χ_{c2} polarizations being almost maximally different. This remarkable observation provides a clean and non-trivial test of any theoretical attempt to explain the mechanisms behind hadron formation, including the widely used approach of NRQCD, which survives the test with flying colours.

Primary author: ARAÚJO, Mariana

Co-authors: FACCIOLI, Pietro (LIP); SEIXAS, João (LIP / IST); LOURENÇO, Carlos (CERN)

Presenter: ARAÚJO, Mariana

Session Classification: Session 5