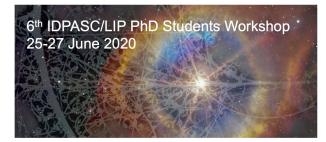
## 6th IDPASC/LIP PhD Students Workshop



Contribution ID: 57

Type: PhD student talk

## Constraints on the chi\_c1 and chi\_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  $\chi_{c1}$  and  $\chi_{c2}$  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.

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