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## Dynamics of hadron formation

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The dynamics of hadron formation are still not fully understood due to the complex nature of QCD and the difficulty of studying it through analytical perturbative calculations. Quarkonia are the simplest possible bound states and thus provide the ideal window through which to study this open problem.

Exploiting the large volume of quarkonium data produced at the LHC, we are working, within CMS, to provide a precise measurement of the  $J/\psi$  polarization, one of the cleanest probes of the quarkonium production mechanism and a challenge to current QCD calculations. At the same time, we are performing a phenomenological study of the existing LHC quarkonium data from ATLAS, CMS and LHCb, which will provide valuable information on the global panorama of quarkonium production and insight into the mechanisms of hadron formation.

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