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Exotic quarkonium spectroscopy and production

Tuesday 23 April 2013 12:20 (20 minutes)

In this talk we will report from the two structures found in the J/psi phi decay channel, accessed through the exclusive B+ −> J/psi phi K+ decay. One of the structures confirms a previous observation by the CDF experiment, while the second structure has been observed by CMS for the first time. These contribute to the "systematic" studies of new structures in the search for new exotic quarkonium states.

Using large data samples of di-muon events, CMS has performed detailed measurements in the field of exotic quarkonium production. We will present very recent result on the X(3872) exotic state, in the J/psi pi pi decay channel, based on ˜6500 events, collected at sqrt(s) = 7 TeV, and covering unprecedentedly high values of pT. The cross-section ratio w.r.t. the psi(2S) will be given differentially in pT, as well as pT integrated. For the first time at the LHC the fraction of X(3872) coming from B hadron decays has been established. We also give a measurement of the di-pion mass spectrum to establish details of the nature of the decay.

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