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Double parton interactions in double J/Psi production at LHC

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The talk is based on the results of our publications [1]. First of all we show that the contribution from double parton scattering to the inclusive production of heavy meson pairs is comparable with the conventional single parton scattering mechanism at the LHC energy. Then we focus on the problem of disentangling the single (SPS) and double (DPS) parton scattering modes in the production of J/ψ pairs at the LHC conditions. Our analysis is based on comparing the shapes of the differential cross sections and on studying their behavior under imposing kinematical cuts. We come to the conclusion that disentangling the SPS and DPS modes is rather difficult on the basis of azimuthal correlations, while the rapidity difference looks more promising, provided the acceptance of the experimental detectors has enough rapidity coverage.

References

[1] S.P. Baranov, A.M. Snigirev and N.P. Zotov, Phys Lett. B 705 (2011) 116;
S.P. Baranov, A.M. Snigirev and N.P. Zotov, A. Szczurek and W. Scafer, DESY 12-183,
arXiv:1210.1806 [hep-ph].

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