

First measurement of associated vector boson plus prompt charmonium production at the ATLAS experiment

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Collaboration

ATLAS

Abstract content

We present evidence of associated vector boson+prompt J/ψ production and measure its production rate. This is a key observable to further the understanding of quarkonium production mechanisms. We estimate the relative contributions to the signal from single and double parton scattering and discuss possible implications of this novel final state for study of multiple parton interactions. Single parton scattering cross-sections are compared to cutting-edge theoretical calculations in the colour singlet and colour octet formalisms.

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