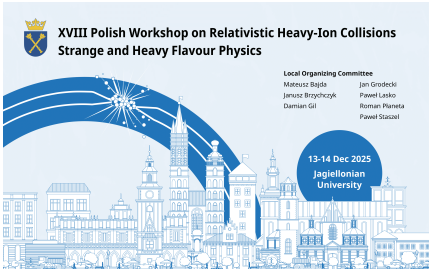


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# Measurement of coherent exclusive $J/\psi$ production in ultraperipheral Pb+Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.36$ TeV with the ATLAS detector

The fully stripped ions used in heavy-ion collisions at the LHC are an excellent source of high-energy quasi-real photons. These can interact with photons emitted by the oncoming nucleus, or with the nucleus itself, either directly in inelastic processes or diffractively via pomeron exchange. Diffractive photonuclear processes can produce exclusive vector mesons that are uniquely sensitive to the spatial and momentum structure of the nuclear parton distribution functions, as well as spatial fluctuations (hotspots). In Run 3, the ATLAS experiment utilized a low-multiplicity track trigger in heavy-ion collisions for the first time, allowing the collection of a large sample of events with a few tracks. A substantial fraction of these events are dilepton decays of vector mesons, including the $J/\psi$. This paper presents the first results on $J/\psi$ differential cross section measurement as a function of $J/\psi$ rapidity.

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