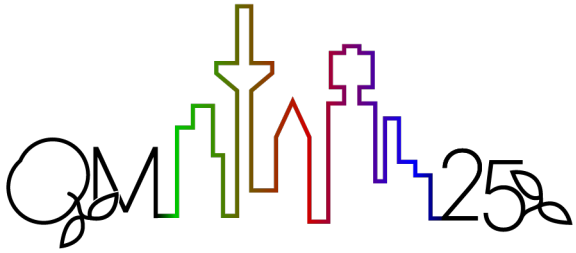

Contribution ID: **452** Type: **Oral**

Measurements of J/ψ and impact of coincident photon induced processes in ultra-peripheral Pb+Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.36$ TeV with the ATLAS detector

Tuesday 8 April 2025 09:20 (20 minutes)

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 ions for the first time, allowing the collection of a large sample of events with a few tracks. A substantial fraction of these are sensitive to dilepton decays of vector mesons, including the J/ψ. First results on J/ψ yields, in association with various topologies of forward neutron emission will be presented using the widest continuous rapidity range available at the LHC. Discussion of important backgrounds from dissociative and multiple-UPC processes will also be provided.

Category

Experiment

Collaboration (if applicable)

ATLAS Collaboration

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Session Classification: Parallel session 15

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