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Typ: Poster

## Measurement of the event multiplicity dependence of $J/\psi$ production in $p+p$ collisions at $\sqrt{s} = 500$ GeV with STAR at RHIC

*Dienstag, 28. März 2023 18:15 (2 Stunden)*

We present a new high-statistics measurement of inclusive  $J/\psi$  production versus event multiplicity in  $p+p$  collisions at  $\sqrt{s} = 500$  GeV with the STAR experiment at RHIC. At mid-rapidity, calorimeter-triggered events are selected for candidate  $J/\psi$  detection in the dielectron decay channel. Existing measurements at both  $\sqrt{s} = 200$  GeV from STAR and  $\sqrt{s} = 7$  TeV from ALICE have shown a faster-than-linear rise as a function of mid-rapidity multiplicity. Potential dependence on collision energy is examined, and measurements are made separately for several intervals over a broad  $J/\psi$  transverse momentum range. Proposed explanatory mechanisms, including multi-parton interactions, string screening, and high gluon radiation are discussed, along with the guidance this measurement and related probes provide to model calculations.

### Experiment/Theory

STAR

### Affiliation

STAR

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**Sitzung Einordnung:** Poster Session

**Track Klassifizierung:** Heavy flavor and quarkonia