## Measurement of J/\psi multiplicity-dependent production in p+p collisions at $\sqrt{s} = 510$ GeV at STAR

The investigation of quarkonium production allows for the study of the properties of strongly interacting matter, such as interactions with the quark-gluon plasma and nucleonic gluon content. While such probes are essential, a detailed description of the quarkonium production mechanism, and its dependence on multiplicity is not yet completely understood. Proposed explanatory mechanisms, including multi-parton interactions, string screening, and higher gluon radiation are discussed, as well as the guidance this measurement and related probes provide to model calculations. The divergence of models at high normalized multiplicity emphasizes the potential for improvement arising from extending the measurement range.

Herein we present measurements of J/Psi production in the dielectron channel in 510 GeV p+p collisions recorded by the STAR detector in 2017. Observables include transverse momentum and rapidity spectra, however the main aim of this study is measuring the dependence of self-normalised J/Psi yields with respect to charged particle multiplicity. The presented analysis utilizes the largest dielectron sample of quarkonia the STAR experiment has obtained from p+p collisions, therefore both increasing precision and extending the reach into higher multiplicity.