Measurement of the event multiplicity dependence of J/Psi production at sqrt(s) = 500 GeV with STAR at RHIC

A new high-statistics measurement is presented of inclusive J/Psi production versus event multiplicity in sqrt(s) = 500 GeV p+p collisions with STAR at RHIC. At mid rapidity, calorimeter triggered events are selected for candidate J/Psi detection in the dielectron channel. Complementing existing measurements at both sqrt(s) = 200 GeV from STAR and sqrt(s) = 7 TeV from ALICE, a faster-than-linear rise is found for event multiplicity dependence. Owing to high integrated luminosity the reach in event multiplicity is also extended above existing measurements. The dependence on collision energy is explored, and measurements are made separately for several intervals over a broad J/Psi transverse momentum (p_T) range. 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.