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Υ and χ_c production in p+p and d+Au collisions at $\sqrt{s_{NN}}$=200 GeV in the PHENIX experiment KWANGBOK LEE, Korea University, PHENIX COLLABORATION — Quarkonia production is an important probe of the thermal properties of the quark-gluon plasma (QGP). Different quarkonia have different Debye screening lengths in the QGP, depending on their radii. As the energy density in the medium increases, quarkonia with smaller radii have a larger probability of survival. By measuring the relative yields of different quarkonia, we can quantitatively compare our experimental results to the theoretical predictions from finite temperature lattice QCD. And by measuring relative production in p+p and d+Au collisions of Υ and χ_c, we can have more probes to estimate cold nuclear effects such as shadowing, nuclear absorption, or interactions with comovers. We have performed simulation studies and data analysis for the $\Upsilon \rightarrow \mu^+ + \mu^-$ and $\chi_c \rightarrow J/\psi + \gamma$ decay channels in p+p and d+Au collisions at forward and backward rapidities. We use the PHENIX Muon Arms($1.2 < |\eta| < 2.2$) for the Υ measurement. Additionally, we use the Muon Piston Calorimeters(MPCs, $3.1 < |\eta| < 3.7$) for the χ_c measurement to detect the χ_c decay photon at very forward and backward rapidities. The status of simulation studies and data analysis for Υ and χ_c will be shown.

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