

Posterior predictive distributions of nucleon-deuteron scattering observables

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Nucleon-deuteron (Nd) scattering data provides direct insight into the three-nucleon forces (3NFs) of chiral effective field theory (χ EFT). Wave-packet continuum discretization (WPCD) is a method that can efficiently approximate Nd scattering wave functions. In this talk I present a study where we developed a WPCD-code and sampled posterior predictive distributions (PPDs) of Nd observables, using recent high-quality posterior probability density functions for the low-energy constants of chiral two-nucleon forces (2NFs). This is a first step towards a Bayesian analysis of 2NFs and 3NFs from χ EFT conditioned on Nd scattering data.

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