Estimating parameters and making predictions for nucleon-nucleon scattering: the role of EFT truncation errors[1] DANIEL PHILLIPS, Ohio University, SARAH WESOLOWSKI, Salisbury University, RICHARD FURNSTAHL, The Ohio State University, BUQEYE (BAYESIAN UNCERTAINTY QUANTIFICATION: ERRORS FOR YOUR EFT) COLLABORATION — Determination of low-energy constants (LECs) and their uncertainties is essential for the robust application of chiral effective field theory (χEFT). In this and the subsequent talk we take the first steps in applying our recently-developed Bayesian parameter-estimation framework to NN potentials derived from χEFT. Our Bayesian machinery consistently incorporates uncertainties from the EFT truncation in the estimation of the LECs that appear in the χEFT NN potential. Combining the resulting LEC posteriors with truncation uncertainties for observables yields rigorous, statistically meaningful error bars for χEFT predictions. The interplay of these two different sources of uncertainty as the order of the EFT calculation is increased will also be discussed.

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Date submitted: 12 Jan 2018   Electronic form version 1.4