

Abstract Submitted
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Bayesian analysis of EFTs with Jupyter notebooks¹ R.J. FURNSTAH, Ohio State Univ - Columbus, BUQEYE COLLABORATION — Uncertainty quantification (UQ) is an essential part of applying effective field theories (EFT) to low-energy nuclear physics. A Bayesian statistical framework is particularly well suited for this task, as EFT expectations regarding naturalness and truncation errors can be encoded through prior probability distribution functions (PDFs). The specification of priors means that all theoretical assumptions are explicit in the calculation of the posterior PDFs, making such an analysis reproducible. The BUQEYE collaboration (“Bayesian Uncertainty Quantification: Errors for Your EFT”) has the overall goal of full UQ and associated diagnostics for EFT predictions using Bayesian statistics. The BUQEYE website <https://buqeye.github.io/> has freely available Python code, Jupyter notebooks, and cheatsheets to make reproducing and extending our results easy. In this talk we provide a guide to this material.

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