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Bayesian Model Averaging for Extrapolation of Effective Field Theory Expansions MATTHEW CONNELL, DANIEL PHILLIPS, IAN BILLIG, Ohio University — Bayesian Model Averaging (or BMA) is used to combine the predictions of different Bayesian models in a statistically consistent way. As such it can improve predictive performance and provide an assessment of model uncertainty, which is otherwise difficult to quantify. BMA weather forecasts are more accurate than forecasts using a particular meteorological model, as in [1]. Here we want to assess the usefulness of BMA as an extrapolation tool for EFT expansions. We apply BMA to a toy model EFT expansion. We perform Bayesian fitting for polynomials of different degree on this toy model, and apply BMA to obtain an averaged extrapolating model. Then we test how well these agree with pseudo-data. By doing this for different underlying functions, different model priors, and different extrapolation distances we formulate some general principles regarding the usefulness of BMA in this context. [1] "Using Bayesian Model Averaging to Calibrate Forecast Ensembles" (Raftery et al. 2003)

Matthew Connell
Ohio University

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