



Contribution ID: 133

Type: **Contributed talk**

Bayesian analysis of nucleon-nucleon scattering data in pionless effective field theory

Thursday, 11 July 2024 16:50 (20 minutes)

In this study, we employ Bayesian statistical methods to analyze nucleon-nucleon scattering data within the framework of pionless effective field theory. The Bayesian analysis facilitates the quantification of uncertainties and the incorporation of prior theoretical knowledge, thereby enhancing the interpretability and reliability of the model parameters. By applying this methodology to nucleon-nucleon scattering data, we aim to provide a comprehensive understanding of nuclear forces in the low-energy regime. The results underscore the effectiveness of Bayesian methods in nuclear physics research, particularly in the context of effective field theories, where model simplicity and computational efficiency are paramount.

session

E. Hadron and Nuclear Interactions

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Session Classification: E. Hadron and Nuclear Interactions