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## Bayesian Model Selection of Inflationary Models Using the CONNECT Emulation Framework

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Bayesian model selection is an invaluable tool when comparing different inflationary models. This is done by computing the Bayesian evidence for the different models using nested sampling, and then comparing them using the Bayes factor. Computing the Bayesian evidence of a model using an Einstein-Boltzmann solver code takes weeks, if not months for complex models, and it is therefore very rarely done. Using a neural network, e.g. from the CONNECT framework, to emulate cosmological observables, the time used to compute the Bayesian evidence of a model can be brought down from tens of thousands of CPU hours to about 100 CPU hours.

In this talk, I will present the setup and programs used to compute the Bayesian evidence using the neural network framework CONNECT. I will also show the Bayesian evidence for the cosmological model  $\Lambda$ CDM+ $\alpha_s+r$  computed with CLASS and CONNECT respectively. Furthermore, I will also present a comparison of different inflationary models using the Bayes factor.

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