

Pitfalls in likelihood land

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The starting point for a statistically sound reinterpretation of an experimental result is the likelihood function, which encodes the probability of the observed data given an assumed model. When multiple experimental results are considered, as in global fits, a composite likelihood function is used, constructed from likelihood components for all the measurements included in the fit.

In most cases the formulation of a likelihood function necessarily involves some approximations. In this talk we will discuss some challenges and subtleties associated with the construction and use of approximate likelihood functions. In particular, we consider how different levels of detail in the likelihood information can impact the results of global fits, and the associated computational expense.

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