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Confidence intervals for the ratio of two quantities

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Often physicists need to calculate the confidence interval for the ratio of two measurements and many times just use the so-called “error propagation” of the corresponding uncertainties, without being aware of the approximations involved and the limitations of this approach. We will explore these limitations, as well as some alternative and more accurate methods. “Exact” methods for the case of ratio of two quantities following a Poisson law will be described, together with approximations to more general cases showing good coverage properties.

Summary

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