

# Applications of Bayesian Model Selection in Neutron Scattering

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Many data analysis problems in science reduce to one of model selection. For example, a materials scientist investigating the structure and properties of a new compound may wish to know: are there two peaks under these diffraction data or three? For how many layers of materials is there most evidence in these reflectivity measurements? Do these data indicate a phase transition? In 1939, Jeffreys showed how probability theory could be used to address such questions in a simple and straight forward manner. Until a few years ago, however, his method was little-known. In this short talk, we will show several examples of the use of Bayesian model selection in Neutron Scattering data analysis.

## References

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