

# Optimization and Minimization of Uncertainties in Time-of-Flight Small-angle Scattering Data Reduction

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Data reduction procedures for the time-of-flight (TOF) small-angle neutron scattering (SANS) measurement should not mimic those that are used for data from monochromated sources. Rather, they should take into account the redundancy and quality of the data obtained from the TOF and spatial channels to meet the precision in differential cross section and  $Q$  needed for the experiment. This is particularly true, as current TOF-SANS instruments largely have fixed geometry and wavelength band-width; thus, the requirements in precision—except, obviously, counting times—are generally considered after the fact. Although the optimization rules for reduction of TOF-SANS data were formulated some time ago,<sup>1,2</sup> it appears that they have not been widely implemented. We will discuss these rules, their bases and the analysis of the instrument and source parameters required for their proper implementation.<sup>3</sup>

## References

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