

# 35 Transient Multiexponential Data Selection Using Cramer Rao Lower Bound

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## Abstract

Previously, analysis of transient multiexponential data using a combination of Gardner transform and parametric methods was shown to yield good results. However, one problem that remains unsolved is that of the nonstationarity of the data resulting from the associated deconvolution. Hitherto, trial and error methods have been used to select the qualitative length of the deconvolved data. In this paper, Cramer Rao Lower Bound (CRLB) is used to select the data truncation points for use with the MUSIC (Multiple Signal Classification), minimum norm and ARMA (autoregressive moving average) methods. Several simulations are made based on which truncation points are recommended for each of the three parametric methods.

**Keywords:** Transient Multiexponential, Data Selection, Cramer Rao, Lower Bound

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