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Exponential Data Fitting and its Applications

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About the ebook

Real and complex exponential data fitting is an important activity in many different areas of science and engineering. The most commonly used norm in the approximation by linear combinations of exponentials is the L_2 norm (sum of squares of residuals), in which case one obtains a nonlinear separable least squares problem. This Ebook covers the main solution methods (Variable Projections, Modified Prony).

Contents

- ▶ Exponential data fitting
- ▶ Computational aspects of exponential data fitting in Magnetic Resonance Spectroscopy
- ▶ Recovery of relaxation rates in MRI T2-weighted brain images via exponential fitting
- ▶ Exponential time series in lattice quantum field theory
- ▶ Solving separable nonlinear least squares problems with multiple datasets
- ▶ Sum-of-exponentials models for time-resolved spectroscopy data
- ▶ Two exponential models for optically stimulated luminescence

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