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Advanced Signal Processing and Mathematical Techniques for Spectroscopic Data Interpretation

Communication Info

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- (1) Spectroscopic techniques
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Abstract

Spectroscopic techniques generate complex datasets that require advanced analytical methods for accurate interpretation. This paper examines the application of signal processing and mathematical tools, including Fourier transforms and multivariate analysis, to spectroscopic data. The approach enhances noise reduction, peak resolution, and quantitative accuracy in analytical measurements. The study highlights the critical role of applied mathematics in improving the reliability and precision of modern analytical chemistry techniques.

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