ID de Contribution: **28**   Type: **Non spécifié**

Time series analysis: Super Resolution with a new Periodogram

lundi 17 novembre 2025 17:00 (30 minutes)

How would you like an algorithm that

Takes in time series you suspect, or know, contain periodic signals
Handles any data mode —time-tagged photons, fluxes, etc.
Returns estimates , for any sinusoidal signals present, of their
Amplitude
Phase
Frequency
Separates sinusoid pairs even closer in frequency than the Rayleigh criterion (Super Resolution)

These properties of a new periodogram, based on a long-known but little-used idea, will be shown with synthetic data and demonstrated on time series data of sunspot-numbers and pulsating stars.

Noting Berrie's deep interest in extracting scientific information from time series data, I feel fortunate to be able to dedicate this world premier of the algorithm to his memory.

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