MakeFormulae

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Token Formulae

Given two series $x_1(t)$ and $x_2(t)$, $t = 0, \cdots, N-1$, form robust power spectrum estimates $\hat{S}_1(f)$ and $\hat{S}_2(f)$:

$$\hat{S}_i(f) = \frac{1}{K} \sum_{k=0}^{K-1} \left| \sum_{t=0}^{N-1} x_i(t) \cdot v^{(k)}(t) \cdot e^{-i2\pi ft} \right|^2 = \frac{1}{K} \sum_{k=0}^{K-1} \left| y_i^{(k)}(f) \right|^2$$

and then also estimate the robust cross-spectra $\hat{S}_{12}(f)$ and $\hat{S}_{21}(f)$:

$$\hat{S}_{ij}(f) = \frac{1}{K} \sum_{k=0}^{K-1} y_i^{(k)}(f) \cdot \overline{y_j^{(k)}}(f),$$

which, upon inversion, gives $\hat{R}_{12}$ and $\hat{R}_{21}$, robust estimates of the real-valued cross-covariance.