Goodness-of-fit tests for the covariogram based on the FFT of biased covariances

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Abstract: In this work, we propose a modification of the goodness-of-fit tests in Crujeiras et al. (2006) for stationary processes observed on a two-dimensional regular grid, in order to make them more suitable for the geostatistical data case. Following Fernández-Casal and Crujeiras (2008), the idea is to change the target function against which the periodogram is compared, avoiding the bias sources that appear due to using the periodogram as an estimator of the spectral density.