



High-Frequency Tail Index Estimation by Nearly Tight Frames

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This work develops the asymptotic properties (weak consistency and Gaussianity), in the high-frequency limit, of approximate maximum likelihood estimators for the spectral parameters of Gaussian and isotropic spherical random fields. The procedure we used exploits the so-called mexican needlet construction by Geller and Mayeli in [Geller, Mayeli (2009)]. Furthermore, we propose a plug-in procedure to optimize the precision of the estimators in terms of asymptotic variance.

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