

GAUSSIAN SEMIPARAMETRIC ESTIMATION FOR RANDOM FIELDS  
WITH SINGULAR SPECTRUM

**Domenico Marinucci**

*Abstract:* We analyze the asymptotic behaviour of the tapered discrete Fourier transforms for random fields with singular spectrum. The results are used to establish consistency and asymptotic normality for semiparametric estimates of the singularity parameter under broad conditions.

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**Key words and phrases:** Discrete Fourier transforms, random fields, singular spectrum, Whittle semiparametric estimates.

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