

Maximum likelihood estimator for the sub-fractional Brownian motion approximated by a random walk

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Received: 21 May 2013 / Revised: 8 October 2013 / Published online: 3 December 2013
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Abstract We estimate the drift parameter in a simple linear model driven by sub-fractional Brownian motion. We construct a maximum likelihood estimator (MLE) for the drift parameter by using a random walk approximation of the sub-fractional Brownian motion and study the asymptotic behaviors of the estimator. Simulations confirm the theoretical results and indicate superiority of the new proposed estimator.

Keywords Maximum likelihood estimator · Sub-fractional Brownian motion · Random walk