1147-62-394   **Qidi Peng** (`qidi.peng@cgu.edu`), 1237 N. Dartmouth Ave., Claremont, CA 91711, **Nan Rao***
(`nan.rao@cgu.edu`), 1237 N. Dartmouth Ave., Claremont, CA 91711, and **Ran Zhao**
(`ran.zhao@cgu.edu`), 1237 N. Dartmouth Ave., Claremont, CA 91711. *Cluster analysis on
covariance stationary ergodic processes and locally asymptotically self-similar processes.*

We study the problems of clustering covariance stationary ergodic processes and locally asymptotically self-similar stochastic processes, when the true number of clusters is priorly known. A new covariance-based dissimilarity measure is introduced, from which consistent clustering algorithms are obtained. We introduce some non-linear transformation to optimize the efficiency of the algorithms. As examples of application, clustering fractional Brownian motions and clustering multifractional Brownian motions are respectively performed to illustrate the asymptotic consistency of the proposed algorithms. (Received January 22, 2019)

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