

TEST FOR PARAMETER CHANGE BASED ON THE ESTIMATOR MINIMIZING DENSITY-BASED DIVERGENCE MEASURES

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(Received May 26, 2003; revised March 30, 2004)

Abstract. In this paper we consider the problem of testing for a parameter change based on the cusum test proposed by Lee *et al.* (2003, *Scandinavian Journal of Statistics*, **30**, 781–796). The cusum test statistic is constructed via employing the estimator minimizing density-based divergence measures. It is shown that under regularity conditions, the test statistic has the limiting distribution of the sup of standard Brownian bridge. Simulation results demonstrate that the cusum test is robust when outliers exist.

Key words and phrases: Test for parameter changes, cusum test, density-based divergence measures, robust property, weak convergence, Brownian bridge.