Offline detection of multiple changes by adaptive penalty

Jean-Marc Bardet,
Université Panthon-Sorbonne

Abstract

In many frameworks (short or long memory time series, piecewise linear models, L1 and L2 criteria), it is possible to show asymptotic convergence results of break time and parameters estimators by minimizing a penalized contrast. The usual BIC criterion, for example, can be a possibility, even if its convergence is not always ensured. But generally speaking, the choice of a "good" penalty speed is problematic. The slope heuristic method (see Arlot and Massart, 2009) answers this question by providing an adaptive penalty guided by the data.