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Assessing general process stability with local regression

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Process stability is usually defined using iid assumption about data. However violating stability requires some concrete model like changepoint, linear trend, outliers, distributional models, positive or negative autocorrelation, etc. These violations are often tested separately and not all of the possible modes of instability can always be taken into account. We suggested a likelihood-based procedure using local regression to assess many possible modes of instability in one step and replace or complement multiple stability tests. The study includes evaluation of equivalent degrees of freedom and AIC/BIC with Monte Carlo simulations and application examples.

Type of presentation

Talk

Classification

Both methodology and application

Keywords

Process stability, changepoint, local regression, equivalent degrees of freedom, AIC

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