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An Alternative to Statistical Process Control with Application to Healthcare Data

Statistical process control (SPC) methods are applied across businesses in the monitoring of key performance indicators. These indicators often take the form of multiple univariate time series, each of which measures the 'health' of some aspect of the business. SPC methods monitor these time series by highlighting unusual variation, changes in the mean, or local trends. Initially developed in the 1920's for use in engineering quality control as a means of monitoring (stationary) manufacturing processes. Their use in the context of monitoring time series that have a combination of first- and second-order non-stationarity along with jump points is contested in this talk and an alternative model-based methodology proposed.

Keywords

process control, time series, dynamic modelling

Classification

Both methodology and application

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