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Some Stylized Facts of the Conditional Expected Delay (CED)

The popular zero-state average run length (ARL) is just the mean of the random run length, which is the core element of a control chart. However, more appropriate measures for evaluating the detection power make use of the conditional expected delay (CED), which is the mean of the detection delay for a given change point position $\tau = 1, 2, \dots$ under the condition that no false alarm was triggered. Originally, it was only a prerequisite for building sophisticated delay measures. Aiming to optimize the latter, interesting patterns of the CED series were found. While the more theoretical strand of monitoring research struggles with some open optimality problems, did the more applied one not recognize the CED stylized facts so far. This talk tries to close the gap. More importantly, it emphasizes and affirms the importance of an appropriate CED analysis.

Special/ Invited session

Classification

Mainly methodology

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