



mn seminar

Multi-scale change point detection in neuronal spike trains

Neuronal spike trains often show temporal changes in their firing activity such as changes in the intensity or regularity of spike occurrences. Such parameter changes may have crucial impact on statistical analyses that require stationarity of the underlying model parameters. Therefore, we aim at localizing change points in spike trains, i.e., points in time where the intensity or regularity of spike occurrences change. Since these change points are typically observed on different time scales, we propose a multiple filter test that operates on multiple time scales simultaneously. When the null hypothesis is rejected, a corresponding multiple filter algorithm can be used for estimation of change points. We discuss the practical performance and give examples of real data spike train analyses.



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16:15 Uhr

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