

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Application of machine learning techniques for amplitude and phase noise characterization

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Diskussionsleitung: Prof. Dr.-Ing. B. Schmauss

In this talk, tools from machine learning community, such as Bayesian filtering and expectation maximization parameter estimation, are presented and employed for laser amplitude and phase noise characterization. We show that phase noise estimation based on Bayesian filtering outperforms conventional time-domain approach in the presence of moderate measurement noise. Additionally, carrier synchronization based on Bayesian filtering, in combination with expectation maximization, is demonstrated for the first time experimentally.