Chair of Communication Networks
TUM Department of Electrical and Computer Engineering
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Master's Thesis

Machine-Learning based fault diagnosis in flexible optical networks

Flexible optical networks achieve a significant increase of network capacity by assigning as much spectrum to the demands as needed. With advances in transponders supporting software tunable channel configurations, network planners are able to select the best combination of data rate, modulation format and forward error correction (FEC) for each light-path. However, the impact of failures in these networks is higher due to the closeness between channels as well as the low OSNR margins.

Hence, in this thesis we will apply machine learning techniques to predict and detect faults based on available monitored data of a flexible optical network provided by ADVA.

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