

Inverse spectrum problem for quantum graphs

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The problem of unique reconstruction of the quantum graphs is studied. The idea is based on the trace formula. The proof of this relation between spectrum of Laplace operator on the metric graph and the lengths of periodic orbits is given. We also give an algorithm how to reconstruct the graph if the lengths of edges are rationally independent. Futhermore we show possible ways to remove the condition of rational independence. This is a joint work with Pavel Kurasov.