

On the inverse problem for quantum graphs with one cycle

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Quantum graphs having one cycle are considered. It is shown that if the cycle has at least three nontrivial vertices, then the potential on the graph can be uniquely reconstructed from the corresponding Titchmarsh-Weyl function (Dirichlet-to-Neumann map) associated with graph's boundary, provided certain no-resonant conditions are satisfied. The main analytic tool is classical Marchenko-Ostrovskii theory for periodic Schrödinger operators.

References:

[1] *Kurasov P.* Inverse problem for Aharonov-Bohm rings and other metric graphs// accepted for publication in *Math.Proc.Camb.Phil.Soc.*

[2] *Kurasov P.* On the inverse problem for quantum graphs with one cycle// accepted for publication in *Acta Physica Polonica.*

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