

Inverse Problems for Graphs with Cycles

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The talk is devoted to the inverse problem for Schrödinger operators on metric graphs in the presence of a magnetic field. It is claimed that the knowledge of the corresponding Titchmarsh-Weyl (matrix) function for different values of the magnetic field may help to solve the inverse problem, *i.e.* to reconstruct the metric graph and real (electric) potential on it. This approach is fully developed for graphs with Euler characteristic zero but without loops. It is proven that this reconstruction is possible if a certain non-resonant condition is satisfied.