

# Local Perturbations on Absolutely Continuous Spectrum

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In this talk we develop a local scattering theory for a finite spectral interval for pairs of self-adjoint operators, which are different extensions of the same densely definite symmetric operator. The obtained results are applied to the scattering problem for differential operators on graphs modeling real quantum networks of a quantum dot and attached semi-infinite quantum wires. We pay special attention to properties of obtained local scattering matrices in vicinities of resonances generated by eigenvalues of the energy operator for separated quantum dot.