

Scattering through a quantum waveguide with combined boundary conditions

Jaroslav Dittrich

Nuclear Physics Institute ASCR, Rez, Czech Republic

A straight planar quantum waveguide with the combined Dirichlet and Neumann boundary conditions on the opposite half-line parts of the boundary is considered. Scattering through the waveguide is studied by the stationary method. The existence of the scattering wave function is proved and the use of stationary method is justified. The talk is essentially based on the paper Ph. Briet, J. Dittrich, E. Soccorsi, *J. Math. Phys.* 55 (2014), 112104.