

Eigenvalues and eigenfunctions of quantum waveguides

Jim Lindsay
Tennessee Technological University, USA

Abstract

Building on the results of P. Exner and P. Seba et al, I consider three parallel, straight quantum waveguides which are coupled laterally through boundary windows in the common boundaries. The symmetric case, in which the waveguides have equal widths and in which the windows are of equal size centered about a common axis, will be considered. I will find the corresponding eigenvalues and eigenfunctions numerically using the mode-matching method.