Determining Energy Eigenvalues of Dynamic Systems by Finding `Eigen-operator' of Square of Schrödinger Operator

FAN Hong-Yi,[1,2] XU Xue-Fen,[3] and LI Chao[4]

[1] Department of Physics, Shanghai Jiao Tong University, Shanghai 200030, China
[2] Department of Material Science and Engineering, University of Science and Technology of China, Hefei 230026, China
[3] Physics Teaching Division, Jiangsu Teachers University of Technology, Changzhou 213001, China

[4] Special Class for Gifted Young, University of Science and Technology of China, Hefei 230026, China

Abstract: A newly transparent approach for determining energy eigenvalues is proposed, which is finding the ' eigen-operator' of the square of the Schrödinger operator. As three examples, we discuss the energy level of a nondegenerate parametric amplifier, an angular momentum system and a ring shape of coupled oscillators.

[Full text: PDF]

Close