1000-35-94 **I. M. Sigal*** (`sigal.1@nd.edu`), University of Notre Dame, University of Toronto. *Dynamics of solitons in nonlinear Schroedinger equations with external potentials.*

Nonlinear Schroedinger equations with external potentials arise in condensed matter physics (e.g. in the description of Bose-Einstein condensation), nonlinear optics, plasma physics, theory of water waves and in other areas of physics and applied mathematics. In this talk I will review some recent results on dynamics of solitons in these equations and I will formulate open problems. (Received August 18, 2004)