Multiple positive standing wave solutions for Schrödinger equations with oscillating state-dependent potentials

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Motivated by relevant physical applications, in this talk we study Schrödinger equations with state-dependent potentials. Existence, localization and multiplicity results are established for positive standing wave solutions in the case of oscillating potentials. To this aim, a localized Pucci-Serrin type critical point theorem is first obtained. Two examples are then given to illustrate the new theory.