This is a review text file submitted electronically to MR.

Reviewer: Znojil, Miloslav

Reviewer number:

Address:

NPI AV CR 250 68 Rez Czech Republic znojil@ujf.cas.cz

Author: Killingbeck, John P.; Grosjean, Alain; Jolicard, Georges

Short title: A complex variable form of the HEG technique.

MR Number: 2186599

Primary classification: 65F15

Secondary classification(s): 81Q05 81U05 81V55 34L25 15A90 92E99

Review text:

Within quantum chemistry the abbreviation "HGE" means "Harris, Engerholm and Gwinn", "an early forerunner of discrete-variable methods" from 1965. In the letter in question, two calculations of resonances in even-parity potentials are presented which report the progress achieved in the earlier two "naive" proposals (viz., of the hypervirial perturbation method [1] and of the matrix diagonalization method [2] by the same authors) when the HEG approach is incorporated. In the first (viz., a two-peak gaussian) example a disagreement is detected with the results of ref. [5]. In the second (viz., a power-law-perturbed inverted-gaussian) example a spectral-concentration phenomenon described in ref. [8] is made clearly visible.