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Review text:

Radial Schroedinger equation is considered for a few sample potentials at such (exceptional) energies and couplings for which the power-series wavefunctions terminate. A few explicit constructions of bound states of elementary form are presented for the three different (viz., sextic, Coulomb and inverse sextic) anharmonicities.

The critical and historical remarks I made on the subject in MR 97a: 81032 and in review Nr. 1 614 232 apply again. I might add their following updates.

(i) The paper in question is, basically, a paedagogically oriented and mathematically most elementary review, motivated by a comparatively trivial but, in physics, less usual two-dimensional interpretation of the angular quantum numbers. It is unfortunate that it lacks the (today, standard) reference to the underlying Lie algebras.

(ii) Many similar selfconsistent determinations of the exceptional wavefunctions and partially solvable potentials are now well understood even beyond the framework of the Hermitian quantum mechanics. For example, P.Roy and R.Roychoudhury picked up the sextic example for this study in their preprint "A Lie algebraic approach to complex quasi exactly solvable potentials with real spectrum" (arXiv: quant-ph/0004034). For the "mixed" potential the same non-Hermitian parallel also exists (cf. J. Phys. A: Math. Gen. 32 (1999) 4563). An update of this discussion is offered by my fresh paper in J. Phys. A: Math. Gen. 33 (2000) 6825.

(iii) Many partially (people often write "quasi-exactly") solvable potentials are also available in the relativistic context. In connection with the third singular example in question I also tried to collect some references myself (cf. Phys. Lett. A 255 (1999) 1 - 6).

(iv) The very discovery of the efficiency of elementary Ansatzs should definitely

be older than I proposed before. Jiri Cizek (University of Waterloo) confirmed that he remembers that the first relevant paper appeared in the year 1968 or sooner. Unfortunately, he has lost the related archive notes due to the related political as well as personal tumult.