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Short title: Energy level and Riccati equation
Publication: Commun. Theor. Phys. (Beijing, China) 32 (1999) 195 - 8
Control number: 1 735 789
Primary classification: 81Q05
Secondary classification(s): 34B30
Review text:

The main idea of this paper is extremely naive: The authors propose the lowering of degree of an ordinary linear differental equation of the second order to its Riccati equivalent. Also, their subsequent proposal of using this approach in the related Sturm-Liouville or Schroedinger bound state problem is definitely not "new". One of the most compact reviews of the enormous related literature may be found, e.g., in the recent review paper "Supersymmetry and quantum mechanics" by F. Cooper, A. Khare and U. Sukhatme in Phys. Reports 251 (1995) on pp. 267 -385. A very concise description of the current "state of the art" can be found there.

The explicit application of the method to several particular solvable examples is nice but definitely not new either. The virtually exhaustive description of this type of construction (plus a few of its quite nontrivial further generalizations) can be found, e.g., in the recent monograph "Quasi-exactly solvable models ..." by A. G. Ushveridze (Bristol, Inst. of Phys. Publ., 1994) or in very many older papers on this particular subject which were published during the preceding more than twenty years.

Last but not least the method is applicable in an even broader class of constructions. A fragmental review of some of their implementations (including another sample of related references) can be found even in my own papers "Bound state method with elementary product wave functions" in J. Phys. A 28 (1995) 6265 and "On the elementary Schroedinger bound states and their multiplets" in J. Math. Phys. 33 (1992) 2785 - 94 (with P. G. L. Leach).