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Review text:

The subject of this text belongs to the so called supersymmetric quantum mechanics [where, typically, a Hamiltonian K of a system S coincides with one of generators of a graded Lie algebra, say, $sl(1|1)$ in the models in question] and to the so called $PT-$symmetric quantum mechanics (where, typically, a one-particle Hamiltonian $H = T + V$ in one dimension is merely parity-pseudo-Hermitian, $H^\dagger = PHP \neq H$). In the former context, a key to applications lies in a representation of K as a direct sum of two (traditionally, Hermitian) "partner Hamiltonians" $H^{(\pm)}$. Typically, we may "start" from a known, solvable potential $V^{(-)}(x)$ and *construct* a new, "partner" potential $V^{(+)}(x)$ as well as all its bound state solutions in closed form.

In the spirit of several independent proposals of a combination of the two formalisms [I cannot resist self-citing M. Z. et al, Phys. Lett. B 483 (2000) 284-9 and M. Z. Czech. J. Phys. 51 (2001) 420-8 at least] the author explains how the supersymmetric partnership works in the parity-pseudo-Hermitian setting. Discussing the explicit construction (via so called superpotentials W) he emphasizes that the requirement of $PT-$symmetry of $V^{(-)}(x)$ may though need not be preserved for the partner $V^{(+)}(x)$. These observations are illustrated using a few explicit examples of the Rosen-Morse type. The study nicely complements the author's review paper [3] (where the page update 10179 - 92 should be added) as well as his recent Doctor-of-Science dissertation.