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# Position-dependent mass Schrödinger equations allowing harmonic oscillator eigenvalues.

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Quantum systems with a position-dependent mass have attracted the attention due to their relevance in describing the physics of many microstructures of current interest. In this work, the coordinate transformation method applied to exactly solvable Schrödinger equations with a position-dependent mass is presented. Essentially, the proposal has the aim to transform the Schrödinger equation with a position-dependent mass into a standard Schrödinger-like equation for constant mass such that the position-dependent mass has been incorporated into the effective potential. As an useful application of the proposal, we consider as effective potential the one-dimensional harmonic oscillator model. In that case, it is found those isospectral potentials that correspond to different forms of dependent-position mass distributions (DPMD). For example we consider explicitly the case of some new DPMD such as $m(x) = e^{-\alpha x^2}$, $2/(1+e^{-2\alpha x})^2$, $1/\cos^2(\alpha x)$, $1/(\alpha^2 x^2 + 1)$ as well as other forms already considered in literature.

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