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Analytical solution to position dependent mass Schrödinger equation

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(Submitted on 8 Oct 2010)

Using a recently developed technique to solve Schr\"odinger equation for constant mass, we studied the regime in which mass varies with position i.e position dependent mass Schr\"odinger equation(PDMSE). We obtained an analytical solution for the PDMSE and applied our approach to study a position dependent mass $m(x)$ particle scattered by a potential $\mathcal{V}(x)$. We also studied the structural analogy between PDMSE and two-level atomic system interacting with a classical field.

Comments:	5 pages, 4 figures
Subjects:	**Other Condensed Matter (cond-mat.other)**; Atomic Physics (physics.atom-ph); Quantum Physics (quant-ph)
Cite as:	**arXiv:1010.1744v1** [cond-mat.other]

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