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The concept of position-dependent mass and its consideration in the study of a particle subjected to different types of potential MARTIN MOLINAR-TABARES, Organismo de Cuenca Noroeste, Comisión Nacional del Agua, LAMBERTO CASTRO-ARCE, CARLOS FIGUEROA-NAVARRO, Departamento de Física e Ingeniería, Unidad Regional Sur, Universidad de Sonora, JULIO CAMPOS-GARCÍA, Departamento de Ciencias de la Salud, Unidad Cajeme, Universidad de Sonora — We present a study where is used the concept of position-dependent mass for a particle subjected to three kind of potential: infinite quantum potential well, harmonic oscillator potential and step potential. We solve the time-independent Schrödinger equation for each potential, considering different forms for the functional dependence of the mass respect the position. We obtain the ground state energy, the energies of some excited states and the corresponding probability densities. We make a comparison of the results with those that we would obtain if we consider an average mass for the particle.

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