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## Collective excitations in even-even nuclei with a stepped infinite square well potential

A new solution for the Bohr Hamiltonian is proposed for an infinite square well potential in the axial deformation variable with an adjustable step [1]. The centrifugal contribution transforms the stepped potential into an effective double-pocket potential, making it suitable for treating shape coexistence phenomena [2,3,4]. The general model characteristics are studied as a function of the height and the width of the additional step. The description of the low-lying states from the 114-124Te nuclei is presented as a numerical application of the model.

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[2] R. Budaca, A. I. Budaca, EPL 123, 42001 (2018).

[3] R. Budaca, A.I. Budaca, P. Buganu, J. Phys. G Nucl. Part. Phys. 46, 125102 (2019).

[4] R. Budaca, P. Buganu, A.I. Budaca, Nucl. Phys. A 990, 137 (2019).

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