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Surface Delta-Interaction in Nucleon-Pair Shell Model

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Abstract: The effect of surface delta-interaction (SDI) in nucleon-pair shell model truncated to an SD-subspace is studied. The results show that with the single-particle level splitting fully taken into account, for realistic SDI strength, the surface delta-interaction also enhance the E2 and M1 transitions of low-lying states.

PACS: 21.60.Cs, Key words: nucleon-pair shell model, surface delta-interaction, spectrum, E2 and M1 transitions

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