

## Nucleon-Pair Shell Model: Magnetic Excitations for Ba Isotopes

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Abstract: Magnetic excitations for Ba isotopes are discussed within the nucleon-pair shell model truncated in the SD subspace. With the SD pair determined by a surface- $\delta$  interaction, M1 transitions for  $^{134}\text{Ba}$  are well fitted. The M1 and M3 transitions for  $^{132}\text{Ba}$  and  $^{130}\text{Ba}$  are also predicted. It is shown that the statement, the collective magnetic properties are due to the orbital motion of nucleons, is approximately valid.

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Key words: nucleon-pair shell model, magnetic excitation, Ba isotopes

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