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Octuple Correlation in 67Ga

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High-spin states of ^{67}Ga have been studied via the ^{58}Ni(^{12}C, 3p)^{67}Ga fusion-evaporation reaction at a beam energy of 50.4 MeV. Three negative-parity bands and three positive-parity bands in ^{67}Ga are established. The observation of one new $E3$ transition linking the positive-parity $\pi 1g_{9/2}$ band and negative-parity $\pi 2p_{3/2}$ band provides evidence of octuple correlations in ^{67}Ga. The characteristics of octuple correlations in the ^{67}Ga are discussed in terms of the reflection-asymmetric triaxial partical rotor model and microscopic relativistic mean field+Bardeen-Cooper-Schrieffer model.

Research field of your presentation

Experimental Low-energy nuclear physics

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