

Abstract Submitted
for the APR15 Meeting of
The American Physical Society

Deformed $su_q(2)$ with deformed Coriolis effect description of superdeformed nuclei in $A \sim 190$ region HAMOUD ALHARBI, KACST, HAMAD ALHENDI, King Saud University, TURKI ALOYAYD, KACST — The deformed $su_q(2)$ model with Coriolis effect is applied to 79 superdeformed bands in the region $A \sim 190$. The transition energies and the moments of inertia are calculated within the model and their validity is investigated by comparing them with the experimental data. The effect of deformation of Coriolis effect in the transition energies and the moments of inertia was investigated. A comparison between the $su_q(2)$ with and without deformed Coriolis effect is made and shows significant improvements in fitting the experimental data. It was shown that deformation of improve the standard deviation of the transition energies up to 80%. Correlation between the deformation parameter q and the excesses of neutrons over protons, S , has been observed. This correlation shows a decaying behavior. As a result, the deformation of Coriolis effect becomes weak with the increase of S .

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Date submitted: 27 Dec 2014

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