

Clustering as a Possible Origin of Deformation in ^{32}S

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Abstract

Lifetime measurements for the 2_1^+ level in ^{32}S reveal through the deduced $B(E2)$ transition strength to the ground state a considerable quadrupole deformation, $\beta_2 \geq 0.33$. A phenomenological analysis of the data based on two-band mixing is able to disentangle the contributions of the spherical and highly-deformed unperturbed bands. It is discussed that the highly-deformed structure may arise from large-scale clustering involving magic ^{16}O .