

Abstract Submitted
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Beta decay properties of the collective scissors mode 1^+ -states in ^{50}Cr ¹ ZEMINE ZENGINERLER, Department of Physics and Astronomy, University of North ,Physics Department, Faculty of Arts and Sciences, Sakarya University, 54187, Sakarya, Turkey, HAKAN YAKUT, Physics Department, Faculty of Arts and Sciences, Sakarya University, 54187, Sakarya, Turkey, ALI AKBAR KULIEV, The National Aviation Academy of Azerbaijan, Baku, Azerbaijan, EKBER GULIYEV, State Agency on Nuclear and Radiological Activity Regulation, Ministry of Emergency Situations, N.Rafiyev 26, Baku, Azerbaijan — The beta decay properties of collective $I^\pi K = 1^+1$ states in doubly even deformed ^{50}Cr nucleus are investigated in the framework of the random-phase approximation (RPA). The model Hamiltonian includes restoring rotational invariance of the deformed single particle Hamiltonian forces and the spin-spin interactions. The present investigation demonstrates an advantage the rotational invariant model (R-QRPA) over the rotational non-invariant model (RN-QRPA). For a more complete comparison with the experimental data, we calculate to the log ft values as well as the energies and B(M1) value of the excited 1^+ -states. The calculated energy spectrum of ^{50}Cr nucleus demonstrates a very rich ft strength structure in accordance to experiment. The agreement between the calculated energy spectrum and the logft values of the scissors mode excitations with the available experimental data is quite good.

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