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Microscopic analysis of magnetic (M1) strength in ^{254}No

The low-energy spectrum in ^{254}No is investigated in the framework of fully self-consistent Quasiparticle-Random-Phase-Approximation (QRPA) method with Skyrme forces (SLy5, SLy6, SkM*, SVbas and SG2) is applied. We propose description of the low-lying characteristic on nuclei so called M1 "spin scissors" mode. Despite the name, the main contribution is made by the orbital current [1,2], while the spin part contributes 20-30%, so both parts must be taken into account. The obtained data are in good agreement with a recent experiment [3], the M1 strength distribution gives centroid at 2.5MeV with $\beta = 0.3$.

[1] V. O. Nesterenko, P. I. Vishnevskiy, A. Repko, J. Kvasil, Physics of atomic nuclei, 85, 6, p. 858-867 (2023)
[2] F.L. Bello Garrote et all, European Physical Journal A , 60, 2 p. 28(1-13) (2024).
[3] F.L. Bello Garrote et all, Phys. Lett. B834, 137479 (2022).

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