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Absolute electromagnetic transition rates in semi-magic N = 50 isotones as a test for $(\pi g_{9/2})^n$ single-particle calculations.

Single-j calculations for $(j)^n$ configurations with n = 3,..,2j+1 can be performed using a semi-empirical approach, provided that the energies and absolute electromagnetic transition rates are known for the two-particle (hole) nucleus. This approach was already successfully applied in the case of protons in the $(\pi g_{9/2})^3$ nucleus ^{211}At [1]. At the Cologne Tandem Accelerator of the Institute for Nuclear Physics we have tested these relations by measuring lifetimes of excited states in the $(\pi g_{9/2})^n$ isotones with N = 50. We started the studies in the two proton nucleus ^{92} where the previously unknown $B(E2 : 4_1^+ \to 2_1^+)$ value, was measured with high precision using the electronic $\gamma - \gamma$ fast timing technique [2]. Subsequently we applied the same technique in ^{93}Tc and ^{94}Ru [3] and ^{95}Rh [4]. Emphasis will be made on the comparison with recent radioactive ion beam experiments.

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