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Description of strong M1 transitions between 4^+ states at N=52 within the sdg-IBM-2[1] R.J. CASPERSON, V. WERNER, WNSL, Yale University, S. HEINZE, IKP, Univ. of Koeln, Germany — The interplay between collective and single-particle degrees of freedom for nuclei near the N=50 shell closure have recently been under investigation. In Molybdenum and Ruthenium nuclei, collective symmetric and mixed-symmetric structures have been identified, while in Zirconium, underlying shell-structure plays an enhanced role. The one-phonon 2^+ mixed-symmetry state was identified from its strong M1 transition to the 2^+_1 state. Similar transitions were observed between 4^+ states in ^{94}Mo and ^{92}Zr, and shell model calculations indicate that hexadecapole excitations play a role. These phenomena will be investigated within the sdg-Interacting Boson Model-2 in order to gain a better understanding about the structure of the states involved, and to which extent the hexadecapole degree of freedom is important at relatively low energies. First calculations within this model, using an F-spin conserving Hamiltonian to disentangle symmetric and mixed- symmetric structures, will be presented and compared to data.

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R. J. Casperson
WNSL, Yale University

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