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# Matrix Elements in Fermion Dynamical Symmetry Model

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Abstract: In a neutron-proton system, the matrix elements of the generators for SO(8)×SO(8) symmetry are constructed explicitly, and with these matrix elements the low-lying excitation spectra obtained by diagonalization are presented. The excitation spectra for SO(7) nuclei Pd and Ru isotopes and SO(6) r-soft rotational nuclei Xe, Ba, and Ce isotopes are calculated, and comparison with the experimental results is carried out.

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Key words: fermion dynamical symmetry, neutron-proton interaction, matrix element