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Generator coordinate method analysis of low-lying and high-spin states in medium- and heavy-mass nuclei KOJI HIGASHIYAMA, Chiba Institute of Technology, NAOTAKA YOSHINAGA, Saitama University — The generator coordinate method (GCM) is applied to the neutron-rich Se, and Ge isotopes, where the monopole and quadrupole pairing plus quadrupole-quadrupole interaction is employed as an effective interaction. As for single-particle levels, all the relevant orbitals, $0g_{9/2}$, $1p_{1/2}$, $1p_{3/2}$, $0f_{5/2}$, in the major shell between the magic numbers 28 and 50 are taken into account for both neutrons and protons. The energy spectra and electromagnetic transitions obtained by the GCM are compared to the shell model results and the experimental data. The model reproduces well the energy levels of high-spin states as well as the low-lying states. The structure of the high-spin states and low-lying collective states is analyzed through the GCM wave functions. It is shown that the triaxial components play essential roles in describing the quasi- γ bands.

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