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Projected Skyrme Hartree-Fock approach to structure of Mg isotopes HIROFUMI OHTA, Institute of Physics, University of Tsukuba, TAKASHI NAKATSUKASA, KAZUHIRO YABANA, Center for Computational Sciences, University of Tsukuba — Skyrme-Hartree-Fock (SHF) calculations using the Cartesian mesh representation has been successful to describe ground-state properties of nuclei for a wide mass region. We extend the method so as to describe odd-parity excited configurations in the variation after parity projection (H. Ohta, K. Yabana, and T. Nakatsukasa, Phys. Rev. C **70** (2004) 014301). The angular momentum projection in the full three-dimensional Euler angles has been performed for the first time in realistic calculations. Now the method is being applied to Mg isotopes. The ground-state correlation energies, excitation spectra, transition amplitudes, etc. are calculated. The calculation shows an importance of symmetry restoration.

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