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Two-component dipolar Fermi gases in a spherically symmetric harmonic trap TAKAHIKO MIYAKAWA, Aichi University of Education, SHIN NAKAMURA, University of Roma Sapiens, HIROYUKI YABU, Ritsumeikan University — We study the ground state of two-component dipolar Fermi gases in a spherically symmetric harmonic trap at zero temperature. We obtain a phase diagram of the system with equal but opposite values of the magnetic moment on the basis of the Thomas-Fermi-von Weizscker approximation. We find that a symmetry-broken phase separation emerges. We also consider a dipolar Fermi mixture of Er and Dy atoms and obtain the characteristics of density profiles of two atoms.

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