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Long-range interactions between three P-state atoms in a magnetic field SERGEY ALYABYSHEV, ROMAN KREMS, Department of Chemistry, University of British Columbia, Vancouver, B.C. V6T 1Z1, Canada — Using the spherical tensor expansion of the interaction potential between two open-shell atoms [1], we analyze adiabatic potential energy surfaces for three atoms in the 3P2 state in the presence of an external magnetic field. It is shown that anisotropic quadrupole-quadrupole interactions between three open-shell atoms may result in long-range repulsions due to avoided crossings between adiabatic surfaces correlating with different atomic states. The strength of the long-range repulsion depends on the magnitude of the applied magnetic field. [1] J.R. V. Krems, G. C. Groenenboom, and A. Dalgarno, Phys. Chem. A 108, 8941 (2004)

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