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Wave propagation in a strongly coupled magnetized plasma¹

ALEXI REYNOLDS, School of Physics and Astronomy, University of Birmingham, HANNO KÄHLERT, MICHAEL BONITZ, Institute of Theoretical Physics and Astrophysics, University Kiel — Strongly coupled plasmas play a growing role in many fields of physics—from dusty plasmas to compact stars and the quark-gluon plasma, e.g. [1]. In many cases these plasmas are subject to a strong magnetic field. The one-component plasma (OCP) model is often used to theoretically analyze strong plasma correlations. Here the wave propagation in a strongly coupled OCP subject to an external magnetic field is investigated by means of the quasi-localized charge approximation [2]. The dispersion relation and the wave polarization are studied for wave propagation across and along the magnetic field as well as for arbitrary directions of the wave vector.

[1] M. Bonitz, C. Henning and D. Block, Rep. Prog. Phys. **73**, 066501 (2010)

[2] G. Kalman and K. I. Golden, Phys. Rev. A **41**, 5516 (1990)

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