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Dispersion relations in magnetized plasmas.

Starting from kinetic models of magnetized collisionless plasmas, we provide a complete description of the characteristic variety sustaining electromagnetic wave propagation. The analysis is based on some asymptotic calculus exploiting the presence at the level of the dimensionless relativistic Vlasov-Maxwell equations of a large parameter: the electron gyrofrequency. The method is inspired from geometric optics. The non trivial effects of the spatial variations of the external magnetic field are exhibited. The two cases of cold and hot magnetized plasmas will be investigated.