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Electromagnetic plasma turbulence driven by electron-temperature gradient[1] TOBY ADKINS, ALEXANDER SCHEKOCHIHIN, Rudolf Peierls Centre for Theoretical Physics, Oxford University, COLIN ROACH, Culham Centre for Fusion Energy (CCFE/UKAEA), Abingdon, PLAMEN IVANOV, Rudolf Peierls Centre for Theoretical Physics, Oxford University — A simplified local model of a tokamak plasma is derived in the low-beta limit of gyrokinetics in a slab of constant magnetic field curvature and gradient. The ordering adopted was chosen in order to retain Alfvénic perturbations to the magnetic field, while ordering out compressive perturbations, in a similar manner to [A. Zocco and A.A. Schekochihin, *Physics of Plasmas* **18**, 102309 (2011)]. It is shown that in the electromagnetic regime, isobaric Kinetic-Alfvén waves can become unstable to the curvature-driven ETG instability, driving turbulence on scales above the electron skin depth. Assuming critical balance [M. Barnes et al., *Phys. Rev. Lett.* **107,** 115003 (2011)], it is shown that the resultant turbulent heat flux is proportional to the temperature gradient, driving transport that is less stiff than the conventional ETG picture. The structure of the underlying electromagnetic ETG instability is characterized.

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