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## Transport in ultra-dense plasmas in neutron stars and white dwarfs in magnetic fields

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I will review recent work on electrical and thermal conductivity and the electrical and thermal Hall effect in electron-ion plasmas relevant to hot neutron stars, white dwarfs, and binary neutron star mergers, focusing on densities found in the outer crusts of neutron stars and the interiors of white dwarfs. We consider plasma consisting of a single species of ions, which could be either iron  $^{56}\text{Fe}$  or carbon  $^{12}\text{C}$  nuclei. The temperature range explored is from the melting temperature of the solid  $T \sim 10^9 - 10^{11}$  K. This covers both degenerate and non-degenerate electron regimes. The impact of magnetic fields on electrical and thermal conductivity is analyzed, showing anisotropy in low-density regions and the presence of the electrical and thermal Hall effect. The transition from a degenerate to non-degenerate regime is characterized by a minimum ratio of conductivities.

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