



The Thursday Thing

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Heat and charge transport of electrons in solids:
Wiedemann-Franz law and its occasional violation

The Wiedemann-Franz law, originally discovered in simple metals, reveals a close connection between heat and charge transport of electrons in solids: in some temperature regimes, the electrical thermal conductivity κ scales with the electrical conductivity σ , leading to a temperature-independent Lorentz number $L = \kappa / (T \sigma)$. I start with introducing this law and its occasional violation in metals, and I continue by examining the influence of electronic interactions and the number of spatial dimensions. The talk will be accessible to a broad audience.

Date: Thursday, August 9, 2001
Place: MacNaughton 222
Time: 12:30 p.m.

Cookies will be served. Don't forget your lunch.