HP6

The pressure results are explained in a semi-quantitative manner using a scattering time that varies by a factor of three over the Fermi surface. By contrast, the warping of the Fermi surface is small; with the exception of cesium, the electron wave vector at the Fermi surface deviates from the free electron value by less than 10 percent.

An approximate expression for τ (\vec{k}) is derived and the factors contributing to the anisotropy in τ are considered. The most important factors are the anisotropy of the velocity of sound and the dependence of the size of the phonon wave vector used in umklapp processes upon the initial electron state. A crude calculation shows that with appropriate forms for the electronphonon scattering matrix element, the latter factor alone can give a scattering time that varies by nearly 70 percent over the Fermi surface.

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