It also follows that at low temperatures the normal state resistivity is mostly defined by electron-electron scattering, and its temperature dependence is $\rho \propto T$.

C. Several data on the phase determination by single and multiple Josephson junctions, and on the temperature dependence of the penetration depth are in favor of an order parameter, changing its sign as function of momentum, and, consequently, the energy gap having nodes. These data can be incorporated in the model described above if, apart from long-ranged phonon mediated attraction, a short range repulsion of another origin is assumed (E-L-U model).

1. ELECTRONIC RAMAN SCATTERING [1]

The problem of Raman light scattering from electrons in HTSC became very important, since these results are critical in defining what kind of pairing takes place: ordinary BCS-type pairing, or something more complicated. One of the most important points is whether or not the energy gap vanishes at certain points or contours along the Fermi surface. In the latter case BCS-type pairing is possible (although not necessarily achieved by phonons). Vanishing of the gap somewhere along the Fermi surface would require non-BCS-type pairing.

Raman scattering is a contactless experiment. The laser spot may be very small so that a good single-domain piece of the surface is selected. It is possible, that the properties of the surface are different from those of the bulk, but the penetration depth of light is of the order of 10^3 A^o, so is one expects that bulk properties are being measured

According to the theory for an anisotropic metal [2,3] the Raman satellite forms a wide band starting from $\omega - \omega' = 2\Delta_{min}$ with a sharp increase from zero to some maximal value in the region $\omega - \omega'$ -$2\Delta_{min}$~$\bar{\Delta}$ and then decreases with ω (as $(\omega-\omega')^{-2}$ for a short coherence length. In various experiments (see references in [3]) with different substances the sattelite starts at $\omega - \omega' = 0$ with a linear dependence $d\sigma \sim \omega - \omega'$ and then follows essentially the theoretical predictions. This could mean that the energy gap turned to zero along lines, which could be possible due to the cylindrical shape of the Fermi surface in a quasi-2-d metal. However in the experiments by Boekholt, Hoffmann and Guentherodt [4], a definite energy gap was observed. They studied very perfect single crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ with a surface thoroughly characterized by a high-resolution electron microscope, and the temperature of the laser spot was well controlled by comparison of intensities of the Stokes and anti-Stokes satellites. An anisotropic gap was observed with $2\Delta_{//}/T_c = 5.7$, $2\Delta_{\perp}/T_c = 3.4$, where $\Delta_{//}$ means an experiment in the Z(XX)$\bar{Z}$ geometry and

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