

Another experiment on unannealed Th specimens in cells with steatite rather than AgCl disks gave results similar to those shown in fig.1, except that the transitions below 75 kbar were broader and the scatter in data much greater, presumably due to pressure inhomogeneities of ~ 10 -20 kbar.

Fig.1 shows that T_C initially decreases with pressure, exhibits a weak minimum near 75 kbar, and then decreases slightly with pressure above ~ 100 kbar. This unusual pressure dependence of T_C may be due to a pressure-induced change in Fermi surface topology or to a crystallographic phase change occurring in the neighborhood of 70 kbar. Although the resistivity as a function of pressure at room temperature does not exhibit any anomalies, such a phase transformation cannot be completely ruled out.

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References

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