

To find the change in  $T_c$  in  $\text{Cu}_3\text{Au}$  under pressure, slow heating experiments were performed on ordered wire samples. In most of the experiments the sample was first subjected to pressure and then heated, but in a few cases the sample was held at 300 bars and then heated to  $200^\circ\text{C}$  before the desired pressure was applied. In the latter case the sample would be subjected to smaller stress gradients during application of pressure. Equally satisfactory results were obtained by both methods, indicating again that the deviator stresses within the sample chamber are too small to influence the ordering behavior. After pressure is attained, the samples are heated slowly from  $200^\circ\text{C}$  to about  $450^\circ\text{C}$ ; near  $T_c$  the heating rate is  $0.3^\circ\text{C}/\text{min}$  or less. Results of a typical experiment are shown in Fig. 4. From curves of this kind  $T_c$  is determined to within  $\pm 1^\circ\text{C}$ . While holding the sample near  $T_c$  the following procedure can be used to determine whether or not  $T_c$  has been exceeded: The sample is held at constant temperature and its resistance observed as a function of time. If the resistance decreases with time the sample has not disordered, since the resistance decrease is indicative of continued antiphase domain growth, a relatively slow process at all temperatures below  $T_c$ . With these techniques it is found that  $T_c = 389 \pm 1^\circ\text{C}$  at  $P = 300$  bars, a pressure low enough so that the shift in  $T_c$  is less than  $1^\circ\text{C}$ . A determination of  $T_c$  on the same sample material immersed in a fluid at 1 bar gave  $388 \pm 2^\circ\text{C}$ , indicating that good