experiment*. Presumably, this is a consequence of their pressure technique. In their so-called ice bomb technique pressures are only generated on cooling down, which prevents the simultaneously grown lattice defects from healing up. It is worth noting that these authors also observed a bend in the $T_c(p)$ curve near the yield strength.

ω-Zirconium

ω-Zr is a hexagonal phase with three atoms per unit cell[15,16]. Because of its crystallographic similarity it is supposed that its formation from the high temperature phase β-Zr (bcc) is diffusionless. It is not yet clear, if it forms in this way from the α phase, too[17]. The transition from α to ω-Zr occurs at a pressure between 50 and 60 kbar at room temperature. The electrical resistance, which increases with pressure in α-Zr, is reported to decrease sharply at the transition by about 18%, but in some of these experiments no such drop is observed at all[17]. Of the superconducting properties of ω-Zr only T_c in the metastable state at zero pressure had been measured before[18].

We have investigated the pressure dependence of T_c of the ω phase mainly to determine its possible influence on the low pressure behaviour, described above. As the transition pressure is comparable to the maximum pressure of the piston-cylinder cell in the tongs, most of the attempts to reach the transition by this technique failed because the cells fractured. There were only two successful experiments, in which the pressure came close to the transition pressure. In none of them any drop in resistance could be observed. But both samples showed a strongly reduced residual resistance ratio as well as an enhanced $T_c(p)$, lying distinctly above the extrapolated $T_c(p)$ curve for the α phase. After release of pressure and subsequent annealing at room temperature $T_c(0)$ of one of the samples was 0.72 K. The other sample was damaged on removal of pressure.

To generate pressures above the α to ω transition, the opposed anvil cell was used. The corresponding clamp apparatus did not fit into the He^3 cryostat and could thus only be cooled in a He^4 dewar. Therefore, T_c values near the phase transition could not be determined. It is unfortunate that the available experimental equipment leaves a gap, both with respect to pressure and temperature, just in the inter-

* They report a $dT_c/dp = 9 \times 10^{-6}$ K/bar for unannealed and $dT_c/dp = 15 \times 10^{-6}$ K/bar for heat treated samples[5].

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