fluoric acid solution produced satisfactory bonding surfaces. The structure and chemical, mechanical, and physical properties of the bond area are consistent with those of the parent metal. Fig. 1 shows a typical solid-phase bond in this system.

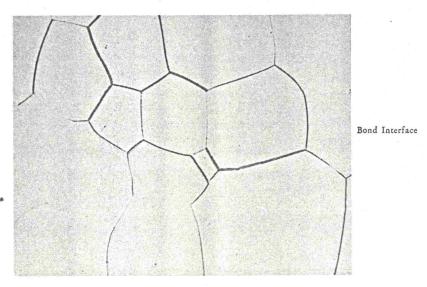


Fig. 1. Columbium self bond. × 100.

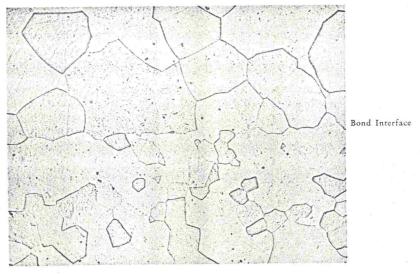


Fig. 2. Columbium-6 w/o vanadium alloy self bond.  $\times$  100.