

Optical microscopy of the lateral surfaces revealed *profuse pyramidal* slip lines on both the $(11\bar{2}0)$ face and the $(\bar{1}010)$ face. The slip traces observed on the $(\bar{1}010)$ face matched the four $\{11\bar{2}2\}$ traces for the $(\bar{1}010)$ surfaces as seen in Figure 11(b) and the one set observed on the $(11\bar{2}0)$ surface matched one set of $\{11\bar{2}2\}$ traces for this surface as seen in Figure 11(a). $\{10\bar{1}2\}$ type twins and basal and $(\bar{1}010)$ prism slip lines were also observed on both these surfaces.

Interferometric studies of the rectangular extrusion markings similar to those described for specimens ISR-10, and ISR-11 and seen in Figure 12(a) and (b) for ISR-12 revealed that these regions were raised about 5000 Å above the surface, as measured by the shift in the fringes obtained with sodium yellow illumination.

Electron transmission microscopy studies of a foil cut parallel to the $(11\bar{2}0)$ surface revealed that dislocations having non-basal Burgers vectors had in fact been produced. These were seen to delineate the $\{11\bar{2}2\}$ traces expected for this orientation as seen in Figure 13 for the operating $g.(0002)$ reflection. The same area examined with the $g.(10\bar{1}0)$ as the operating reflection revealed the dislocations having Burgers vectors coincident with the basal plane as well as those $(\vec{c} + \vec{a})$ vectors which were not coincident with the $(10\bar{1}0)$ plane. These studies showed that \vec{c} , $\vec{c} + \vec{a}$ and \vec{a} Burgers vectors were present. A far greater number of dislocations having \vec{c} type Burgers vectors were present in this foil suggesting that $(\vec{c} + \vec{a})$ dislocations dissociated into \vec{c} and \vec{a} components.

2. Zone Levelled Crystals

a. Specimen SR-11-1 (156-164 ksi Pressure)

The macroscopic photographs of this crystal after deformation under hydrostatic pressure are shown in Figure 14. The fracture occurred in the region of the platens as shown. Optical microscopy of the lateral surfaces revealed pyramidal slip only in the regions close to the platens