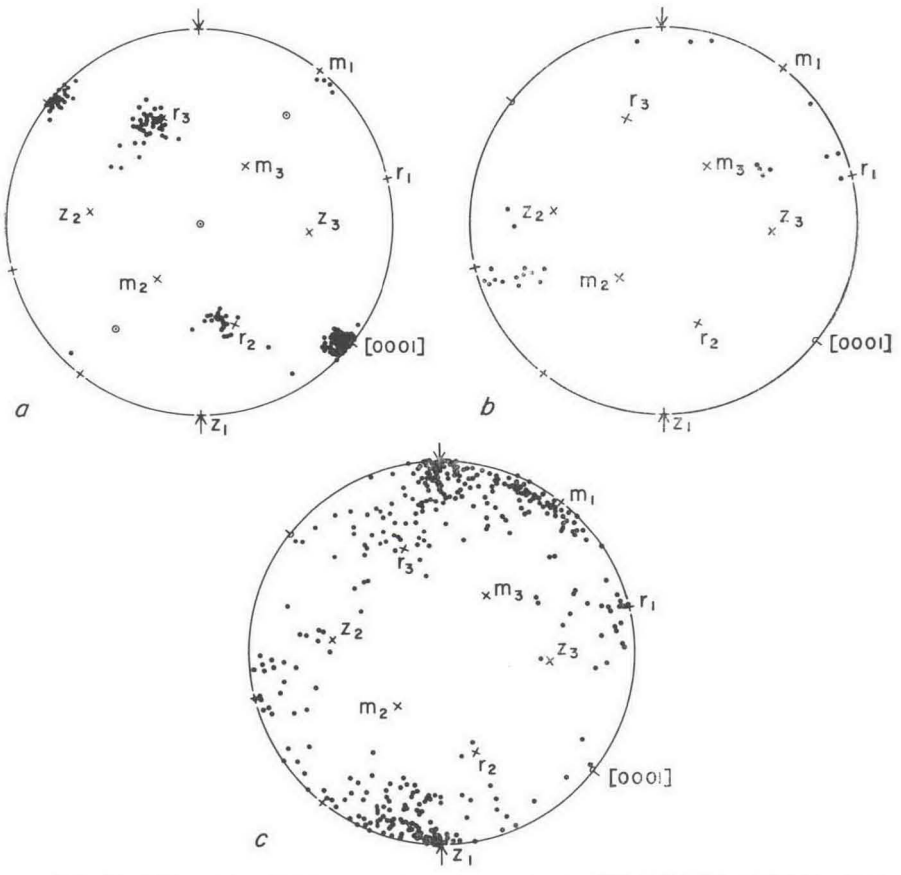

Fig. 7. Orientation of planar structures in specimen 759. (*a*) Poles of faults. (*b*) Poles of feather-fractures. (*c*) Poles of other planar fractures.

The parallelism of the faults with rational crystallographic planes is further demonstrated in figure 8, which shows their orientations in four samples of different crystallographic orientations. These diagrams were selected to illustrate the variable degree to which the faults are parallel to crystal planes of low indices. Specimen 756 (fig. 8a) shows a strong preferred orientation of faults parallel to the rhombohedra *r* and *z*. In specimen 762 (fig. 8b) the poles of the faults spread along great-circles (r_3-m_3-z_3; r_2-m_2-z_2) corresponding to important zones in the crystal; this suggests that some of the fault surfaces, if seen at greater magnification, might be step-like combinations of two planes with low indices (for example, z_3 and r_3). In figure 8c (specimen 765) the concentrations of poles of the measured faults lie slightly away from the points representing the *r* and *z* planes. However, the angles between the measured planes correspond to the interfacial angles between the rhombohedral planes r_2 and r_3. Moreover, the measured *c*-axis is inclined to the predicted *c*-axis by approximately 10°, and it is evident that a rotation of the measured planes

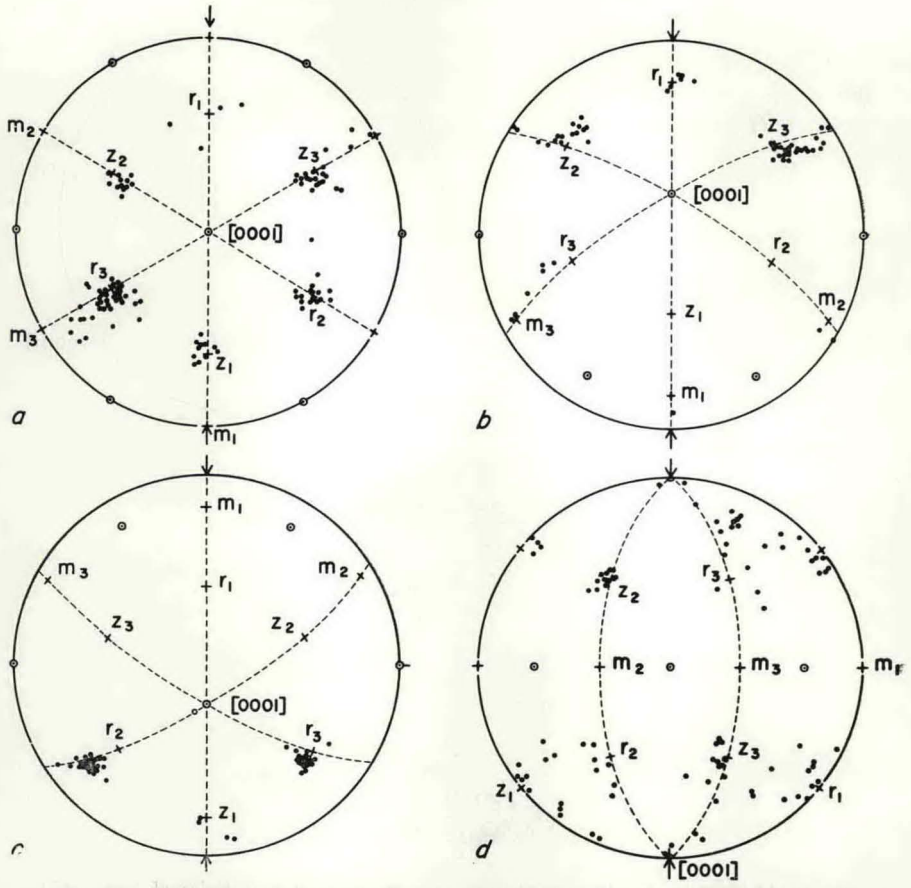

Fig. 8. Orientation of faults in four specimens: (*a*) Specimen 756; (*b*) Specimen 762; (*c*) Specimen 765; (*d*) Specimen 753.

through this angle would bring them almost into coincidence with the predicted orientations of the rhombohedra. We consider that they are, in fact, concentrated parallel to r_2, r_3, and z_1 and that the divergence in the diagram is due to a small rotation of the sample during the difficult operation of preparing the oriented thin section. The diagram illustrated (fig. 8c) represents the greatest divergence seen in any of the sections; the concentrations of poles of faults generally coincided very closely with the predicted orientations of the crystal planes.[3] The greatest spread in the orientation of faults encountered in any of the specimens is illustrated in figure 8d. It is still evident, however, that approximately half of the faults are almost parallel to the unit rhombohedra.

The faults present in all the sectioned specimens are listed in table 2. Where one main set of faults is identifiable it is in bold-face type. The table

[3] The small errors are remarkable in view of the complexity of the methods employed to make the sections. A check on the preservation of the orientation was obtained by optical measurement of the orientation of the *c*-axis and the ends of the cylinders. The departures from the intended orientation were generally less than 5°.