

Fig. 11. Schematic map of the central portion of the H-6 quadrangle covering the region where radar altimetry indicates a large west-facing downslope. The topographic contours are shown based on radar altimetric profiles (subradar tracks shown as dotted lines). The indicated ridges and intracrater scarps are from the geologic map of *De Hon et al.* [1981]. Note that although no expression of faulting (e.g., scarps or ridges) is seen south of Handel, the trend of the topography remains the same. Note also the narrow plateau east of Rudaki Crater. Abbreviations are of crater names; Ru, Rudaki; Ch, Chaikovskij; Ti, Titian.

show some hints of continuation of the faults outside the craters. The indistinct nature of the presumed faults outside the craters may reflect a difference in material properties between the floor of a crater and the plains and ejecta external to a crater.

The major topographic features in the area of the 3 km drop are shown in Figure 11. As can be seen in this schematic, it appears that the scarps in this region are part of a single system of faults that trends north-south in the northern half of the H-6 quadrangle and is associated with the 3 km drop in mean elevation seen in radar altimetry. This system of topographic features does not correlate well with any of the basin rings of *Spudis and Strobell* [1984] and any curvature of this structural trend is very slight. Thus, it seems unlikely that this fault system is related to any extremely large impact structure.

Another west-facing slope with a 2 km drop can be seen in two radar profiles at 8°W longitude, 2.0°N and 3.8°N latitude (Figure 2a). The high side of this slope is the highest absolute altitude that we have measured for the planet (Figure 12). Unfortunately, it lies too close to the Mariner 10 eastern terminator to allow for comparison with images and appears only at the very edge of the radar profiles.

A 1.5–2 km west-facing slope occurs at approximately 52°W at latitudes extending from 4.8°S to the equator. It apparently defines the western side of a rather narrow plateau of intercrater highlands [*De Hon et al.*, 1981] separating the basin centered at 44°W, 2.1°S from the lowlands west of Rudaki Crater (see Figure 11). There is no obvious connection between this feature and the large fault zone to the northeast. No obvious structural or topographic features can be seen in the altimetry or Mariner 10-derived images or maps that might show a

connection between the two. Detailed comparisons with images are difficult in this area, however, due to the high Mariner 10 illumination angles at this longitude.

An escarpment can be seen in the radar profile across Zeami Crater on the eastern edge of the H-8 quadrangle (Figure 2c). The eastern wall of Zeami drops 3.3 km to the crater floor, whereas the west rim climbs only 2 km before dropping back to an altitude 3 km below the level of the terrain to the east of the crater. The geologic map of *Schaber*

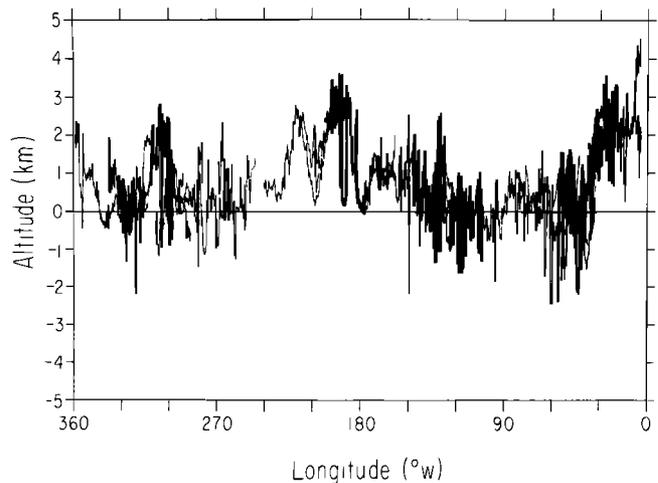


Fig. 12. Combined plot of all Arecibo radar profiles of Mercury from 1978–1982, showing absolute altitudes relative to the 2439.0-km-radius reference sphere (denoted by the central horizontal line). Latitudes of profiles on this figure range from 11.8°N to 5.0°S.