

Fig. 13. Mercator map of dark terrain structures in the anti-Jovian hemisphere, identical to that shown in Figure 4 except that 500 km of left-lateral shear of area 1 relative to areas 2 and 3 have been retrodeformed. Heavy dashed lines show proposed continuations of throughgoing dark terrain structures beneath the younger, intervening light and grooved terrain. Letters indicate specific trough segments and regional groove orientations discussed in the text.

exposed through “windows” in younger, resurfaced light terrain. The reticulate terrain is observed to consist of mosaics of 5- to 15-km-wide, trough-defined blocks. Linear features are arguably rotated where they cross into reticulate terrain from surrounding, undeformed areas. This analogy, taken together with the obser-

vation that reticulate terrain occurs essentially exclusively within and adjacent to the proposed shear zones, suggests that if shear occurred then minor but pervasive rotation and shearing of 5- to 15-km blocks may have been important in the formation of reticulate terrain.

Discontinuities in Furrow-Controlled Groove Orientation

Evidence for structural control of groove orientations by shallowly buried furrows has been provided by Murchie and Head [1985] and Murchie *et al.* [1986]. The latter investigators and Golombek and Allison [1981] also provided evidence that major zones of weakness (such as preexisting fault zones) acted as limits to propagation of groove sets. Therefore, although system I furrows cannot be traced directly into light grooved terrain, shear offsets of regional patterns of buried furrows might be recognized in light grooved terrain as abrupt linear discontinuities in furrow-controlled groove orientations.

In Elam Sulci, north of area 2, lineament I defines one such linear discontinuity in regional groove orientation (at “A” in Figure 2b). East of the lineament, the dominant groove orientation is orthogonal to arcuate furrows in Galileo Regio (area 1) - equivalently, parallel to system I radial furrows. West of the lineament, the dominant orientation is orthogonal to the arcuate furrows of northern Marius Regio (area 2). The groove orientations to the east and west of the lineament differ by about 15°

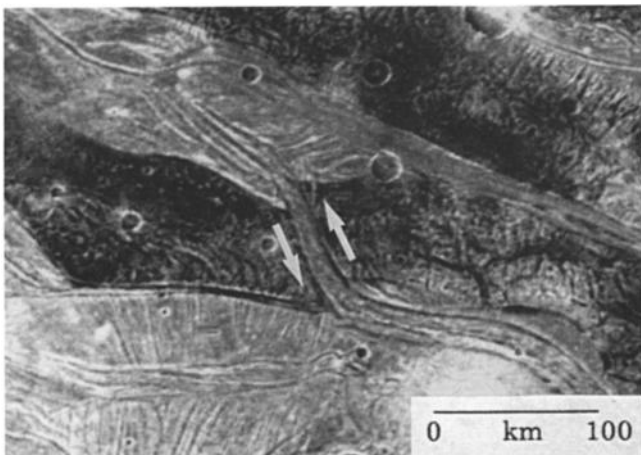


Fig. 14. Two blocks of dark reticulate terrain in northern Uruk Sulcus that may have undergone 15 km of left-lateral offset. (Voyager 2 image 20637.17, centered near 6°N, 158°W.)