Resurfacing continued in Barnard Regio and northwestern Nicholson Regio for some time, partially to completely burying preexisting craters and furrows. Furrow formation continued in these latter areas for a brief enough time that very few if any large craters postdating the resurfacing were crosscut.

System I

Description. System I contains the crudely concentric arcuate furrows of the anti-Jovian hemisphere in Galileo Regio and Marius Regio, as well as less abundant subradially arranged furrows. No ridges or other possibly compressional features are observed in system I. *Smith et al.* [1979*b*] noted that arcuate furrows in system I are less degraded morphologically than are those in system III, and suggested on this basis that system I is younger. This interpretation is consistent with the occurrence of undeformed system I furrows within 1700 km of the center of curvature of system III, without the occurrence of intervening, segmented remnants of the system III furrows.

Figure 11 shows the configuration of the system I arcuate furrows after removal of the shear proposed by *Murchie and Head* [1988] to have occurred prior to most light terrain emplacement. The furrows closely fit small circles centered on 15°S,168°W, the pole of concentricity calculated by Murchie and Head. Near the center of the small circle system is a possible giant, degraded palimpsest first identified by *Passey and Shoemaker* [1982] and *Shoemaker et al.* [1982]. *Schenk and McKinnon's* [1987] pole of concentricity studies show that furrow concentricity within Galileo Regio commonly breaks down at and beyond about 3000 km from the center of curvature; another area of nonconcentric furrows, at a similar distance from the center of curvature, occurs in northwestern Marius Regio. A third major area of furrow nonconcentricity occurs in the central portion of the set, in eastern Marius Regio and southern Galileo Regio (arrows, Figure 11). These nonconcentric furrows have nearly linear traces that deviate systematically from concentricity in a counterclockwise sense. A plausible explanation for this systematic trend is local control of furrow orientation by older structures; the only observed older structures are system III furrows. As is shown at the arrows in Figure 12, many of the linear nonconcentric furrows are parallel to small circles centered on the pole of concentricity of system III arcuate furrows. This relation suggests that system I arcuate furrows may have reactivated older system III structures where the two systems' structures were closely aligned.

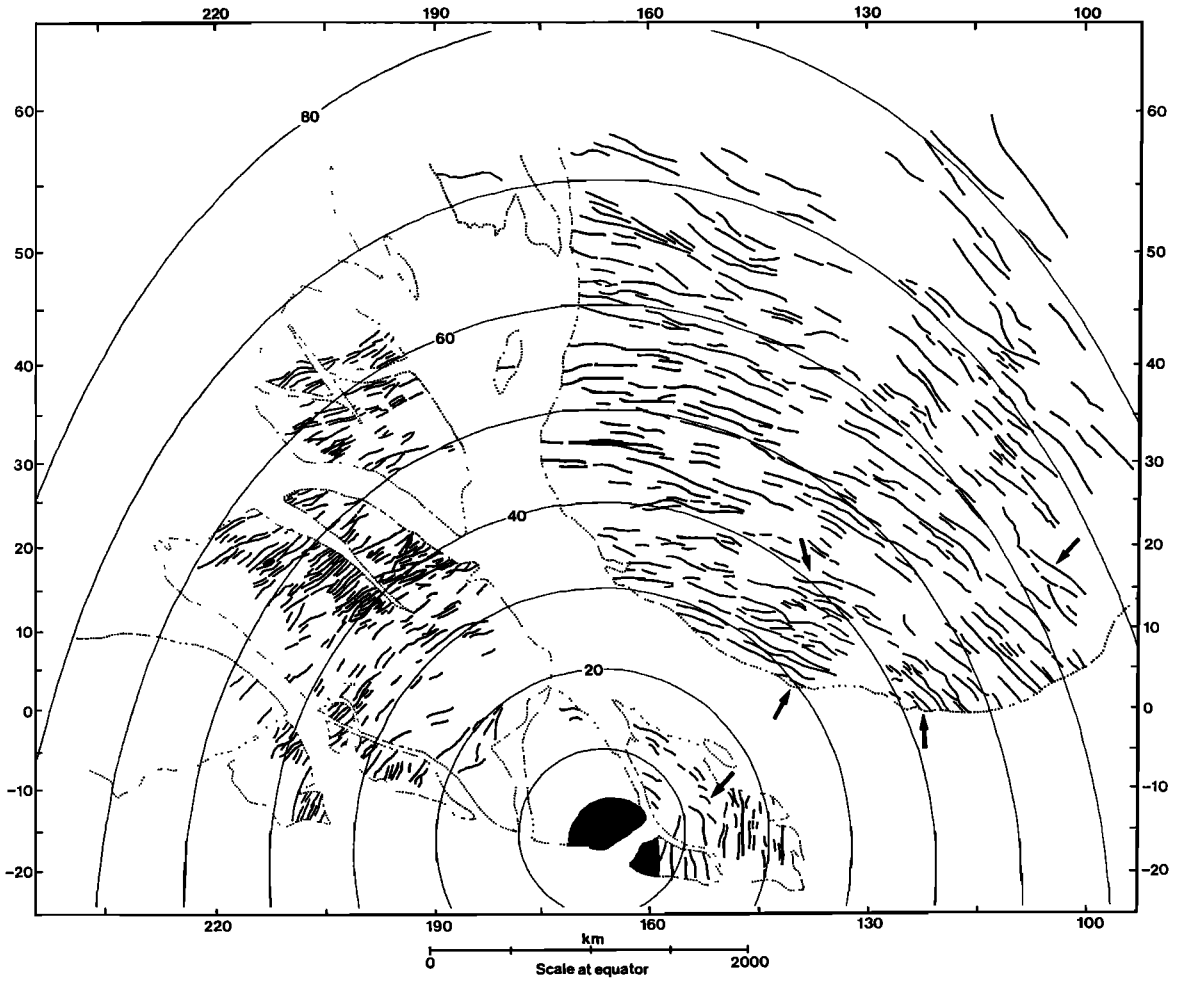

Fig. 11. Mercator map of system I arcuate furrows. Curved lines extending throughout the map are small circles placed at 10° intervals and centered on the furrows' center of curvature. The solid black area is the central giant palimpsest, and dotted lines are light terrain-dark terrain contacts. Arrows show area of furrow nonconcentricity where the furrows follow older system III structural trends.