

VENUS RADAR IMAGES. D.B. Campbell, J.K. Harmon and A.A. Hine, Arecibo Observatory, Arecibo, PR 00613 and J.W. Head, Brown University, Providence, RI 02912.

Recent images of the Ishtar Terra and Alpha regions on Venus obtained with the Arecibo 12.6 cm radar system have resolutions of 3 km, a significant improvement over previously published images (1). Although still not amenable to easy interpretation, considerable new detail is apparent in the structures of the Maxwell, Akna and Freyja Montes and along the southern edge of Lakshmi Planum. An area of linearly textured terrain was discovered just to the west of Ishtar Terra. A study of the polarization properties of the received echoes has shown that there is a significant specular component in the signal from some sections of the southern edge of Lakshmi Planum, which are aligned approximately perpendicular to the line of sight, and also from a number of areas in the Freyja Montes. These mountains are aligned approximately E-W and, hence, are also perpendicular to the line of sight from the radar. The existence of this specular component indicates steep slopes with angles which are roughly the same as the sixty to seventy degree incidence angles at which the areas are viewed. The polarization properties for other areas, especially in the Maxwell Montes, are being studied in an attempt to obtain additional slope information.

#### Reference

- (1) Campbell, D.B. and Burns, B.A., Earth-based Radar Imagery of Venus, J. Geophys. Res., 85, 8271, 1980.