

VENUS: ARECIBO RADAR IMAGERY FROM THE 1988 CONJUNCTION, D.B. Campbell¹, A.A. Hine², and P.C. Fisher³, ¹National Astronomy and Ionosphere Center, Cornell University, Ithaca, NY 14853, ²National Astronomy and Ionosphere Center, Arecibo Observatory, Arecibo, PR 00612, ³Department of Geological Sciences, Brown University, Providence, RI 02912

The Arecibo 12.6 cm wavelength radar was used to image most of the surface of the planet 'visible' during the close approach of the planet to the earth in 1988. To date, processing of the data has provided 1.5 to 2.5 km resolution, 25 look, imagery of the surface in the approximate longitude range 270° to 20° and latitude bands 12°N to 60°N and 10°S to 60°S. The incidence angle at which the radar viewed various portions of this area varied over the approximate range of 12° to 65° with the lowest incidence angles being at low latitudes near longitude 330° and the highest ones near the periphery of the area displayed. Image quality is also a function of incidence angle since the signal-to-noise ratio decreases with incidence angle due to both scattering law effects and increased atmospheric absorption.

The data set is being used for a variety of studies of Venus concerned with crater statistics and surface age determinations¹, the structure and distribution of large volcanic edifices^{2,3}, volcanic flow features and their properties^{4,5,6} and the ring-like structures associated with the Themis Regio^{7,8}.

References 1. D.B. Campbell, et al. (1990), LPSC XXI; 2. D.A. Senske, et al. (1990), LPSC XXI; 3. S.J. Keddie, et al. (1990), LPSC XXI; 4. L. Wilson, et al. (1990), LPSC XXI; 5. P.C. Fisher (1990), LPSC XXI; 6. B.A. Campbell and D.B. Campbell (1990), LPSC XXI; 7. E.R. Stofan, et al. (1990), LPSC XXI.