

RADAR OBSERVATIONS OF TINATIN PLANITIA: GOLDSTONE 1988
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The 1988 observations of Venus were primarily targeted to provide over-lapping coverage with the 1986 and 1990 observation series in order to provide data for a new solution of the polar axis. However, three of the images were made in the longitude range from 0° to 40° . This region is known to be geologically more complex than the plains regions to the west¹. Our images of this region show a distinct increase feature density on all scale sizes. The images have resolution of 1-2 km per pixel and each covers an area of roughly 1.4×10^6 km². The quality of these images vary due to large differences in the number of looks processed in the image solution and due to decreasing signal to noise ratio as they move eastward.

The best image of this series is centered on coordinates (3.9N, 5.9E) and includes along its southern edge a portion of the hilly terrain that straddles the equator east of the prime meridian (See Figure 1). Near the sub-radar point is a large circular depression roughly (100 km diameter, 0.5 to 1 km deep) that is bounded by a set of steep arcuate ridges. Sets of 3-6 narrow sub-parallel ridge features are seen south of this structure, and also in the northern portion of the image. Other isolated features in the image include a 45 km diameter circular structure of possible impact origin, and numerous knobby hills, which range in size from 2 to 20 km across. The northern half of the image consists of broad patches of bright and dark terrain. The bright areas are associated with several circular rings around them. A bright flow-like unit appears to emanate from one of these circular features. Contacts between the bright and dark patches, which may represent overlapping lava flows, have little topographic expression, except for a dark swath in the NW part of the image, which appears to be bounded by a pair of sub-parallel ridges 10-30 km apart.

- (1) Goldstein, R.M., Green, R.R., and Runsey, H.C., *Icarus*, 36, 334-352, 1978.

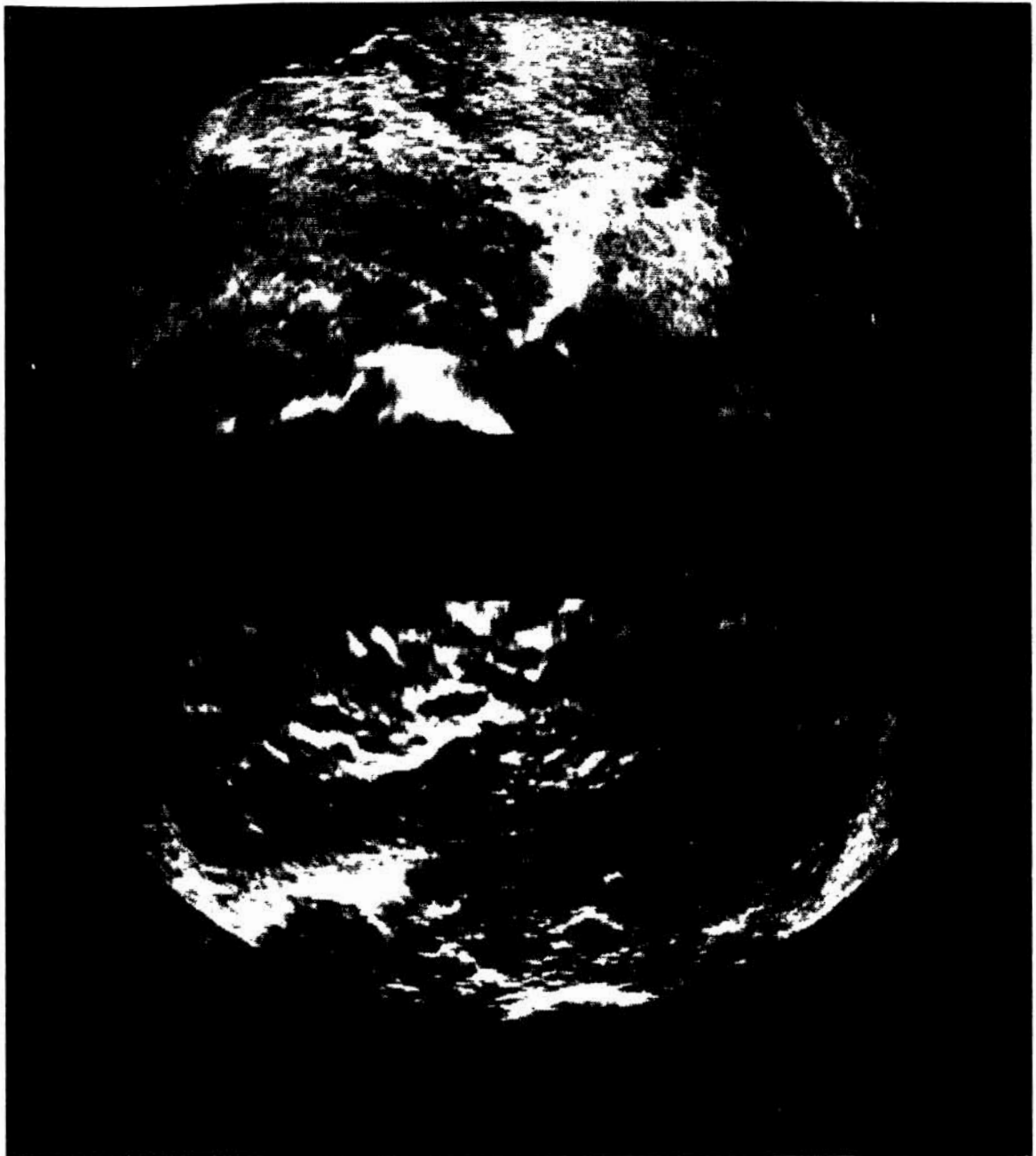


Figure 1

Radar image of a portion of Tinatin Planitia showing a variety of geological structures including fine ridges, craters, and flow-like features.