

N85-32549 D 83

9.16A THE PONAPE ST RADAR

D. A. Carter, W. L. Ecklund and B. B. Balsley

Aeronomy Laboratory
National Oceanic and Atmospheric Administration
Boulder, Colorado 80303

In May, 1984, a 50-MHz ST radar was installed on the island of Ponape in the western equatorial Pacific (7°N, 158°E) by the Aeronomy Laboratory of NOAA. The radar consists of a 100 m x 100 m array with a single, vertically directed, beam and is initially transmitting 15 μ sec (2.25 km) pulses. The radar is operating continuously, with Doppler spectra being recorded at approximately 1 1/2 minute intervals and sent to Boulder for later analysis. One of the principal goals of the radar is to measure vertical motions in the troposphere and lower stratosphere at a location which is within the intertropical convergence zone during part of the year. First results, during generally fair weather conditions, show detectable echoes up to about 21 km with the tropopause at 17-18 km. Once daily balloon soundings are available locally from a NOAA Weather Service Office on the island. It is planned that this radar will be joined in the coming year by two others with oblique as well as vertical beams on two yet-to-be-selected equatorial islands as part of the TOGA (Tropical Oceans Global Atmosphere) program.