

9.6A SUMMARY OF PROGRESS AT THE POKER FLAT OBSERVATORY IN ALASKA

B. B. Balsley

Aeronomy Laboratory
National Oceanic and Atmospheric Administration
Boulder, Colorado 80303

A description of the status of the Poker Flat MST Radar as of early 1983 is included in the 1983 MST Workshop Proceedings (HANDBOOK FOR MAP, VOL. 9). The following paragraphs bring that report up to date.

The Observatory continues to operate in a continuous data-taking mode, except for a three-week planned campaign experiment concurrent with the STATE rocket program during June 1983.

Construction of the digital preprocessing system mentioned in the last status report is all but complete. This additional improvement should be operational by late summer.

The possibility of steering the array also mentioned in the last status report is being investigated. A project is underway to electronically steer the one-quarter "vertical" section of the array. Steering will be in finite steps within about $\pm 5^\circ$ of vertical. Successful testing of this modification may lead to eventually steering the entire array in this manner.

Data analysis of the data base (now more than four years in length continues with well over one dozen extramural scientific groups participating.

A partial list of this year's publications using Poker Flat results (i.e., only those publications coauthored by NOAA's Aeronomy Lab Scientists) is included below.

PUBLICATIONS RELATING TO THE POKER FLAT RADAR (SINCE MID 1983)

- Balsley, B. B., W. L. Ecklund and K. S. Gage (1983), On the use of clear-air ST radars to observed winds, waves and turbulence in the troposphere and lower stratosphere, Preprint Vol., Fifth AMS Symposium on Meteorological Observations and Instrumentation, April 11-15, Toronto, Ontario, Canada, pp. 191-195.
- Balsley, B. B. and A. C. Riddle, Monthly mean values of the mesospheric wind field over Poker Flat, Alaska, and a proposed polar circulation cell, submitted to J. Atmos. Sci.
- Gage, K. S. and B. B. Balsley, MST radar studies of wind and turbulence in the middle atmosphere, submitted to J. Atmos. Terr. Sci.
- Green, J. L., K. S. Gage and B. B. Balsley (1983), A reexamination of the pulse length dependence of backscattered power observed by VHF radars at vertical incidence, Preprint Vol., 21st Conf. on Radar Meteorology, Sept. 19-23, Edmonton, Canada, 141-143.
- Luhmann, J. G., R. M. Johnston, M. J. Baron, B. B. Balsley and A. C. Riddle (1983), Observations of the high-latitude ionosphere with the Poker Flat MST radar: Analyses using simultaneous Chatanika radar measurements, J. Geophys. Res., **88**, 10239-10245.
- Nastrom, G. D. and K. S. Gage (1983), A brief climatology of vertical air motions from MST radar data at Poker Flat, Alaska, Preprint Vol., 21st Conf. on Radar Meteorology, Sept. 19-23, Edmonton, Canada, 135-140.
- Riddle, A. C., K. S. Gage and B. B. Balsley (1983), An algorithm to monitor continuously the tropopause height using a VHF radar, Preprint Vol., 21st Conf. on Radar Meteorology, Sept. 19-23, Edmonton, Canada, 153-155.