The National Weather Radar Testbed (NWRT) Phased Array Radar (PAR), located in Norman, Oklahoma, consists of a single antenna array capable of electronically scanning a 90 degree azimuthal sector at any given moment. The antenna is mounted on a pedestal which can be commanded to move in any azimuthal direction allowing researchers to follow areas of interesting weather. Until now, when tracking a weather feature, an operator had to decide when and where to move the pedestal in order to keep the feature in the field of view, which imposed a significant operational burden. This paper describes an adaptive algorithm that uses reflectivity data to track an operator-defined weather feature and automatically adjusts the pedestal position to optimally keep it in the field of view.

Test Case 1

Test Case 2

Test Case 3

Test Case 4