

A COMPARISON OF AUTOMATED-SEARCH METEOR RESULTS
FROM RADAR OBSERVATIONS AT TWO LOCATIONS

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The automated FFT periodic micrometeor searching algorithm developed by Mathews et al. [An update on UHF radar meteor observations and associated signal processing techniques at Arecibo Observatory, *JASTP* **65** (2003) 1139-1149] has now cataloged over 33,000 separate sporadic meteor events seen with the 430 MHz Arecibo Observatory radar over 30 hours of observation time. An additional 30 hours of meteor data were taken in July and August 2005 using the 1290 MHz Sondrestrom incoherent scatter radar. The Sondrestrom radar was run in two modes to observe sporadic meteors. In the first mode, the radar beam was pointed at zenith to mimic conditions at Arecibo. In the second mode, the radar beam was pointed due east at a 60 degrees zenith angle. The second configuration was chosen as an attempt to maximize the meteor flux rate and is an observation condition not possible using the Arecibo radar. The searching algorithm was run on data sets from both radars. We present and compare sporadic meteor parameters (i.e. altitudes, velocities, decelerations) from both facilities while considering the resultant insights into the head-echo scattering process at 430 MHz versus 1290 MHz. We also use the observation parameters to determine mass distributions and orbit parameters. Additionally, the Perseid meteor radiant was tracked at Sondrestrom. We present the orbit parameters of the Perseid meteor shower as a contrast to the parameters from presumed sporadic meteor events. The statistics obtained from the shower are compared to published results from the ALTAIR radars [Close et. al. Analysis of Perseid meteor head echo data collected using the Advanced Research Projects Agency Long-Range Tracking and Instrumentation Radar (ALTAIR), *Radio Sci.* **35** (2000) 1233-1240].

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