

Antarctic meteor observations using the Davis MST and meteor radars

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This paper presents the meteor observations using two radars installed in Davis (69 deg S, 78 deg E), Antarctica. The Davis MST radar was installed in February 2003, primarily for observation of polar mesosphere summer echoes, with external transmit and receive antennas installed to allow all-sky interferometric meteor radar observations. The Davis meteor radar was installed in January 2005 to also allow all-sky interferometric meteor radar observations. The annual count rate variation for both radars shows good agreement with previous high-latitude observations, peaking in mid-summer and minimizing in early Spring. The height distribution shows significant annual variation, with minimum (maximum) peak heights and widths observed in early Spring (mid-Summer). Radiant mapping and meteoroid speeds have been used to identify meteor showers and to investigate sources of sporadic meteors. Winds and temperatures derived from the meteor observations are also presented, showing good agreement with independent co-located measurements.