

# **Long Term Trend in Mesopause Temperature as Observed by Michelson Interferometers at Arctic and Antarctic Sites**

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The response of the mesopause temperature to solar cycle variations has been investigated using OH airglow observations from Michelson Interferometer instruments located at Eureka (80°N, 85.56° W), Canada, Resolute Bay (74.68° N, 94.90° W), Canada, and South Pole Station, Antarctica (90° S). These aforementioned stations have been making continuous measurements of temperature and airglow emissions during the six months of each polar winter night. In this paper we present our results to elucidate solar cycle and long-term trend in the MI temperature time series data. In addition, we discuss mesospheric seasonal variation in the Northern and Southern hemispheres and compare these mesopause temperatures to highlight similarities and disagreements observed in the OH temperature response to solar cycle at Arctic and Antarctic sites.