

Estimating Noise Equivalent Delta Temperature (NEDT) of Inflight ATMS

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Abstract

NEDT is a critical metric for assessing the noise level and instrument performance of microwave radiometers. The NEDT of inflight radiometers needs to be accurately estimated. In the study, we have reviewed different algorithms of calculating NEDT including those of UK MetOffice, EUMESAT, and NOAA. We found these algorithms suffer from a number of issues and provide biased estimate of NEDT. We develop an algorithm with a solid physical and mathematical substance and applied it for ATMS onboard N20 and Suomi NPP.