

**Abstract 22 – Paper ID: 039****Observation of Greenland Ice Sheet melting using Oceansat-3**

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**Abstract**

The melting of the Greenland Ice Sheet is a critical indicator of climate change. The melting of the ice sheets can be performed by using scatterometer data. The EOS-06 (Oceansat-3), an Indian satellite, has a Ku-band (13.5 GHz) scatterometer sensor. It provides three data types namely  $\sigma_0$  (sigma-nought),  $\gamma_0$  (gamma-nought) and BT (brightness temperature) in two polarizations (horizontal and vertical). This study attempted to detect the surface melt of the Greenland Ice Sheet using  $\gamma_{0H}$  (gamma-nought horizontal component) to observe the temporal and spatial melting of the Greenland Ice Sheet. The thresholding technique is applied to identify the melting signature of the ice sheet from February 2023 to October 2025. Instead of using a particular threshold value, different threshold values are used to find a close result with melting data of National Snow and Ice Data Centre (NSIDC-0755).

**Keywords:** Greenland, ice sheet melting, thresholding technique, Oceansat-3, EOS-06, Arctic