Analysis of AMPR and HIWRAP Data in Two Cases From IMPACTS

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The AMPR and HIWRAP instrument observations were analyzed in concert with forecast model analyses for two cases from the IMPACTS 2020 field campaign. The 1 February 2020 case featured a sloping bright band caused by a frontal system over the Atlantic. The bright band was visible in the dual-frequency ratio (DFR) retrieval from HIWRAP, and AMPR nadir brightness temperatures also were sensitive to the sloping bright band, with brightness temperatures decreasing with lower bright band altitude. The 5 February 2020 case featured a rain-snow transition over land. This transition was also apparent in HIWRAP DFR. AMPR’s lower frequency channels were more sensitive to wetting of the land surface, while 85 GHz was sensitive to both phases of precipitation.