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Oral
The FORMOSAT-7/COSMIC-2 (FS7/C2) satellites have been successfully launched on 25 June 2019. With six-month data statistics, the FS7/C2 provides considerably more and deeper profiles at lower latitudes than those from the FORMOSAT-3/COSMIC (FS3/C). Statistical analysis of six-month RO data shows that the rate of penetration depth below 1-km height within ±45o latitudes can reach 80% for FS7/C2, significantly higher than 40% for FS3/C. The verification against radiosondes shows the absolute mean difference and standard deviation of temperature profiles less than 0.5 oC and 1.5 oC, respectively, and deviations of water vapor pressure within 2 hPa in the lower troposphere. In terms of the data application, a parallel semi-operational experiment with the assimilation of FS7/C2 bending angle shows a positive impact on global forecast skills, and the most significant results are presented over the tropical region. The FS7/C2 RO data have been operationally used in the Central Weather Bureau (CWB) since 15 September 2020. For case studies, some preliminary results with positive data influences on severe weather predictions will be discussed in this presentation.
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