

## **Non-uniform Local Time Coverage of Polar-orbiting Passive Microwave Observations in Global Precipitation Datasets**

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Passive microwave (PMW) measurements from space offer the baseline (though not final) estimate of surface precipitation in many global datasets (CMORPH, GPCP, GSMaP, and IMERG among others). Although a constellation of LEO satellites provides dense PMW observations across the globe, certain ranges of local time (e.g., 10-11am/pm) are left unobserved in the current deployment of polar orbiters. This inhomogeneity in local time coverage is a potential source of bias as the result of an artificially skewed diurnal cycle that may be aliased into precipitation estimates. In this work we examine this problem, looking into the biases in polar-orbiter measurements against the reference from sun-asynchronous (TMI and GMI) observations. The potential impacts by the long-term changes/drift of satellite equatorial crossing time on the estimated temporal variability in precipitation will be also discussed.