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Rainfall Diurnal Cycle and Possible Connections to ENSO

Song Yang

(2) I.M. Systems Group & Center for Satellite Applications and Research (STAR)/NESDIS/ NOAA, Camp Springs, MD 20746 Phone: 301-763-8208; song.2.yang@noaa.gov

This study presents the seasonal variability of rainfall diurnal cycle based on ten years Tropical Rainfall Measuring Mission (TRMM) microwave imager (TMI) and precipitation radar (PR) measurements. Results demonstrate that the precipitation products from TRMM facility rain algorithms are highly consistent in spatiotemporal distributions. In addition, the spatial variability of seasonal convective and stratiform rainfall diurnal cycle is discussed. The observed convective and stratiform rain climatology would be useful for cloud model and general circulation model simulations of hazardous storms. The overall seasonal variation of diurnal cycles of convective and stratiform precipitation over ocean and continent is not significant, however, the intraseasonal and interannual and regional variability of rainfall diurnal cycles is a prominent feature. Their possible connections to the El Niño and southern oscillation (ENSO) events are investigated in detail in this study.