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Precipitation diurnal variability over East Asia and its connection to ENSO

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The diurnal variability and its possible connection to ENSO of convective, stratiform, and total precipitation over the Tibetan Plateau, Yangtze River Basin, and East China Sea have been investigated using the 9-year Tropical Rainfall Measuring Mission (TRMM) precipitation radar (PR) measurements. Results demonstrate that the diurnal variability of precipitation especially for convective precipitation is most active over the Tibetan Plateau. The diurnal phase of convective rainfall is in mid-ate afternoon, except over the East China Sea, while the diurnal phase of stratiform rainfall is in early morning, except over the Tibetan region. The diurnal amplitude of convective rainfall is generally larger than that of stratiform rainfall. In addition, the seasonal variability of convective rainfall diurnal cycle is stronger than that of stratiform rainfall. The most active region of the convective rainfall diurnal cycle is over the Tibetan Plateau region, while over the ITCZ area for stratiform rainfall. The precipitation diurnal amplitude and phase during El Niño event is different from that during La Niña event over East Asian. However, precipitation diurnal cycle and ENSO show a complex relationship.