

AAS003-P08

会場:コンベンションホール

時間: 5月27日17:15-18:45

ラジオゾンデデータに見られる成層圏QBOのENSOとの関係

Observed connection of the stratospheric QBO with ENSO in radiosonde data

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Using a stratospheric zonal wind data archive of radiosonde observations at equatorial stations for 1953-2008, this study investigates whether or not signals of the Quasi-Biennial Oscillation (QBO) vary with the El Nino/Southern Oscillation (ENSO) cycle. The signals of the QBO are represented by trajectories in a phase space spanned by time series of two leading modes of wind variability. Two properties of the trajectories, distance from the origin and time change in argument, which are proxies for amplitude and phase progression rate of the QBO respectively, are first examined in relation to seasons and QBO phases. The examination ensures known features of the QBO including the so-called seasonal locking and more regular phase propagation for westerly phase. A further comparison of the properties between cold and warm ENSO conditions (La Nina and El Nino, respectively) reveals unprecedented evidence of clear variations of the QBO with ENSO: the QBO signals exhibit weaker amplitude and faster phase propagation for El Nino conditions. Such variations are also supported by a composite analysis of zonal wind anomalies. We also discuss a possible connection of the ENSO-associated changes in the QBO with those in equatorial wave activity.

キーワード: 準二年周期振動, エルニーニョ/南方振動

Keywords: QBO, ENSO