



## **Impacts of Two Wave Trains on Intraseasonal Variability Over East Asia in Boreal Winter**

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The East Asian winter monsoon is one of the most active systems in the Northern Hemisphere during boreal winter. The intraseasonal East Asian winter monsoon variations may induce strong cold events, causing large damages even the death of people. The present study investigates the factors for intraseasonal variability of the East Asian winter monsoon. It is found that the intraseasonal variations over East Asia in winter are associated with two wave trains originating from the North Atlantic Ocean. One wave train is present along the polar front jet in the north, and the other wave train is observed along the subtropical jet, both propagating eastward to East Asia. Present analysis reveals that the two wave trains display both individual and combined impacts on intraseasonal wind variations over East Asia. The extent and intensity of surface temperature anomalies over East Asia depend critically upon how the two wave trains match with each other. The sources and the coherence and interference of the two wave trains will be discussed in this study.