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Interhemispheric Pc 1 wave propagation associated with foreshock transient events during quiet solar wind condition¹ SUNGJUN NOH, HYOMIN KIM, ILYA KUZICHEV, New Jersey Institute of Technology, DOGACAN OZTURK, University of Alaska Fairbanks, ZHONGHUA XU, Virginia Polytechnic Institute and State University, JAMES WEYGAND, University of California Los Angeles, HUI ZHANG, ANDREW VU, University of Alaska Fairbanks, MICHAEL HARTINGER, Space Science Institute, XUELING SHI, Virginia Polytechnic Institute and State University, MARK ENGBRETSON, Augsburg University, ANDREW GERRARD, New Jersey Institute of Technology — Hot flow anomalies and foreshock bubbles are transient phenomena observed near the ion foreshock that are associated with solar wind discontinuity. It is well known that these foreshock transient events can trigger geomagnetic disturbances such as ULF waves. In this presentation, we report a series of foreshock transient events that occurred under quiet solar wind and geomagnetic conditions. In association with the foreshock transient events, Pc 1 waves were observed by a ground-based magnetometer network in both hemispheres with some time delay after each foreshock transient onset. Magnetospheric satellite observations support that these waves were not generated within the magnetosphere but near the magnetopause. In addition, Pc 1 waves show interhemispheric asymmetries in their amplitudes and onset times. Our study focuses mainly on the analysis of the ground observations and the wave propagation from the source to the ground. We also suggest possible scenarios to explain the observations.

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