

A comparison of Pc5 micro-pulsations associated with vertical acoustic resonance and those with substorm onset

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The Pc5 geomagnetic micro-pulsations associated with the vertical acoustic resonance is frequently observed just after large earthquakes, during strong volcanic eruptions or under severe meteorological conditions. On the other hand, the so-called storm-time Pc5 frequently appears around substorm onset. The frequency of such Pc5s is often rather close to that of the fundamental mode of the vertical acoustic resonance. For example, at an "outrise earthquake" on December 7, 2012, we observed a Pc5 pulsation having a period of 270seconds at 90-160 minutes after the origin time. Because of the coherent phase among the data obtained at different geomagnetic stations, it seems to be magnetospheric origin rather than the acoustic resonance effect. We compare the characteristics of both type Pc5s.

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