

Interaction phenomenon between the solid earth and the atmosphere by the common atmosphere disturbance

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Earthquakes and volcanic eruptions cause acoustic resonance phenomenon[1]. The stationary waves between the thermosphere and the ground that the period is about 4 minutes resonate with the same modes of the surface wave excited by earthquake and other causes. The effect of the acoustic atmosphere oscillations reaches the thermosphere and causes the geomagnetic pulsation[2]. Some geomagnetic pulsation phenomenon by common atmospheric disturbance, typhoon and heavy rains are found from several microbarograms. We investigate the common acoustic atmosphere oscillations with the Kamioka laser strainmeter and the Superconducting Gravimeters.

[1] Kanamori, H., Fluid Dynamics Res., 34, 1-19, 2004

[2] Iyemori, T., et al., Geophys. Res. Lett., 32, L20807, 2005