

SEM031-P09

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SP and geomagnetic total intensity change accompanying earthquake swarm activities in Izu: 2006 and 2009

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Confronting the occurrence of the earthquake swarm activity in Izu in December 2009, the data of SP and geomagnetic total intensity observation network were examined and reexamined since 2006, when the former latest activity occurred.

It is found that the positive SP anomaly which amounts to 20 to 50 mV appeared in coastal and therefore epicentral area during the activity in 2006 which continued for four months. However, the geomagnetic total intensity changes could not be detected, though the observation network in 2006 was more sparse than nowadays.

In 2009, the activity occurred in the following trends of SP and geomagnetic total intensity in the epicentral area:

SP: epicentral and its southern one nearby observation points were in increasing trend (approximately 50 mV per 4 months) since September. The duration of positive anomaly for months which was found in 2006 is not found in 2009.

Geomagnetic total intensity: epicentral and its southern two nearby observation points were in slow decreasing trend (approximately 1 nT per month) from July to late November, then sudden increasing (approximately 4 nT per month) started. The activity occurred during the latter trend and after the activity ceased, the increasing trend stopped.

The expected mechanism suggested by the electric and magnetic phenomena is discussed, considering their differences between 2006 and 2009, together with their seismicities.