
SGD002-04

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Absolute Gravity Change during the Earthquake Swarm at Ito in December 2009

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It is widely believed that some crustal fluid is deeply involved with the occurrence of earthquake swarms in and around the Izu peninsula. To identify the movement of the fluid in terms of mass transfer, we have measured gravity variations during the swarms with a FG5 absolute gravimeters. We find the gravity variation during the December 2009 swarm is well correlated with the seismicity. For example, the gravity increase until Dec. 19, 2009 is accompanied by active seismicity, and the gravity decrease during Dec. 19-20 is accompanied by rather inactive seismicity. The correlation strongly suggests that the rather rapid fluid migration is responsible for the activation/deactivation of seismicity. We shall discuss if the above scenario provides integrated explanation of occurrence of the swarms by scrutinizing the past activities in 2006 and those in 1990's

Keywords: Earthquake Swarm, Absolute Gravity, Crustal Fluid