



## **Seismicity associated with the 2010 eruption of Merapi volcano, Central Java, Indonesia**

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Mount Merapi, Central Java, Indonesia erupted several times in October-November 2010. There are several kind of earthquakes associated with Merapi volcanic activity. Volcano-tectonic earthquakes are linked to brittle failure of rocks under increased stress in rocks due to magma intrusions. Multiphase earthquakes are associated with magma transport or dome growth. Low Frequency and Tremor related with fluid movements. Rock-falls indicate an increased rate of inflation. We present in this paper the chronology of the seismicity of the 2010 eruption and characteristics of frequency content. Seismicity associated to the 2010 eruption series of eruption was intense. Before the first eruption, seismicity increased a lot and was determinant to the alert level definition, together with deformation observations. After the first eruption on 26th October, seismicity was still intense indicating that further eruptions would occur. On 4th of November, there were significant number of VT, later tremor was occurred intensively, most of the short period stations were saturated. The biggest eruption was happen on 5th of November when the pyroclastic flow reached 15 km southward. Progressively, seismicity decreased in intensity and recovered normal level several days later.