

ULF Electromagnetic Anomaly Associated with Two Large 2009 Earthquakes in Indonesia

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In last 2009, two large earthquakes occurred in Indonesia. The first of earthquakes happened in Tasikmalaya, West Java, on September 2, 2009. Its magnitude is about 7.0 with the depth 46.2 km. The second one, which has magnitude 7.6 and depth 81 km, occurred in Padang, West Sumatera on September 30, 2009. To investigate and confirm the occurrence of ULF electromagnetic anomaly preceding the both earthquake, spectral density analysis performed. Initially, the analysis is introduced by Hayakawa et al (1996) who analyzed the Guam Earthquake. The results unveiled that spectral density analysis seem to be powerful to distinguish between signals associated with the both large earthquake and the other signal such as magnetic pulsation or man-made noise.

Keywords: ULF electromagnetic anomaly, Spectral density analysis, Tasikmalaya earthquake, Padang Earthquake