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Earthquake Precursor Using The Anomalous Radon Concentration: Study Case Palu Earthquake, Indonesia, Magnitude 7.2, September 28, 2019

An earthquake precursor is a phenomenon which takes place sufficiently prior to the occurrence of an earthquake. Agency for meteorology, climatology and geophysics (BMKG) have earthquake precursor monitoring system in Palu, Indonesia. This system monitor and record some physical parameter such as: radon content, groundwater level, humidity and temperature.Its monitoring has been used as a possible tool for earthquake precursor, because the distribution of radon concentration is closely related to the geological structure, fracture, nature of rocks and distribution of sources. We clearly observed of increasing trend of radon concentration, since August 2018 before Palu earthquake, magnitude 7,2, September 28, 2018. High radon concentration because of opening of cracks, increases the diffusion of pore fluid and change of strength and pore pressure, causes variations in the chemical and physical characteristics of the rocks. The increase of the radon concentration happens when the cracks start to form in the rocks of the involved area in the possible earthquake. The problems related to the identification of anomalies are: the characteristic of the anomaly; the distance between the epicentre and radon site; and the estimation of the time between the radon anomaly and the earthquake occurrence. Key words: Radon, Anomaly, Earthquake, Palu, Indonesia

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