

On the base of the seismogenic zone in the Kakkonda geothermal area

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The base of the seismogenic zone is often explained by the brittle-plastic transition of the rock property due to temperature increase with depth. In the Kakkonda geothermal field, where NEDO has been conducting a project named "deep-seated geothermal resources survey", both detailed micro-earthquake locations and subsurface temperature distributions have been determined precisely. In that sense, the Kakkonda area is one of the best field for investigating the relationship between micro-earthquake focal depths and temperature. The distribution of micro-earthquakes and temperature are compared in detail and mechanisms which determine the base of the seismogenic zone are discussed in terms of (1) temperature distribution, (2) hydraulic property, and (3) stress field .