

Four-dimensional resistivity tomography at Onikobe Geyser

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We have made resistivity tomography at Onikobe geyser, Miyagi prefecture, Japan in order to monitor the resistivity structural change with time. We distributed 24 potential electrodes and 8 current electrodes around the geyser. We injected DC currents with typical 130mA with 3 second interval by switching 8 current electrodes. Thus we assumed the time of 24 seconds as a stationary state. thus we get total of 24 (potential electrodes) x 8 (current electrodes) data for each time snapshot. This data was inverted by 3d modeling code of Pidlisecky et al(2007), with constraints of fixing the surrounding background and metal pipe at the geyser. Then we get 3d resistivity models for each time. We found the temporal resistivity change with time is as small as 1 percent, but we could get systematic resistivity change with the flushing and recharging of the reservoir fluids.