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Observations of magnetic field on a lava tube at Kilauea Volcano, island of Hawai'i

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We carried out magnetic survey just above an active lava tube at Kilauea Volcano by using a portable cesium magnetometer and two fluxgate magnetometers in December, 2000.

The purpose of the cesium survey is to detect the location and the size of the tube, which is thermally demagnetized structure. We compared magnetic anomalies calculated from demagnetized tube models to the observed data, and estimated approximate depths and diameters. Continuous survey by fluxgate magnetometers aimed at evaluating the effect of the higher electrical conductivity of the tube. The time-series data obtained on the lava tube and apart from the lava tube show some differencies, but the cause is not clear.