The hydrothermal system of Mt.Fuji by self-potential,magnetotellurics

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It is very important to investigate a volcanic shallow structure as well as deeper one when we intend to understand the precursory phenomena, and variety of volcanic eruptions. Self-potential (SP) observed in a volcanic area is the fundamental information on a volcanic shallow structure. By measuring SP, we can get important information on dynamic phenomenon of the hydrothermal regime. We carried out SP measurement in the summit area of Fuji Volcano. As a result, the following were revealed.

1.A positive SP anomaly up to 2V was found around the center of summit creator.

2.Spatial wavelength of the positive anomaly is as large as several km.

3.Tendency of the electric field on the southeast side slope differs from that on other slope.

Above results is very characteristic comparing with the results of other volcano.The observed SP anomaly suggests existence of hydrothermal system in the shallow part of Fuji Volcano. We tried forward modeling in order to get some insight of the mechanism, which generates the mentioned characteristic SP. In this forward modeling simple conductivity structure is assumed, the source of current is given, and the potential on the surface is calculated. We will compare this calculation result with observed data, and discuss about the shallow part of Fuji Volcano. We will also report the results of MT observation that was carried out on November 2002.

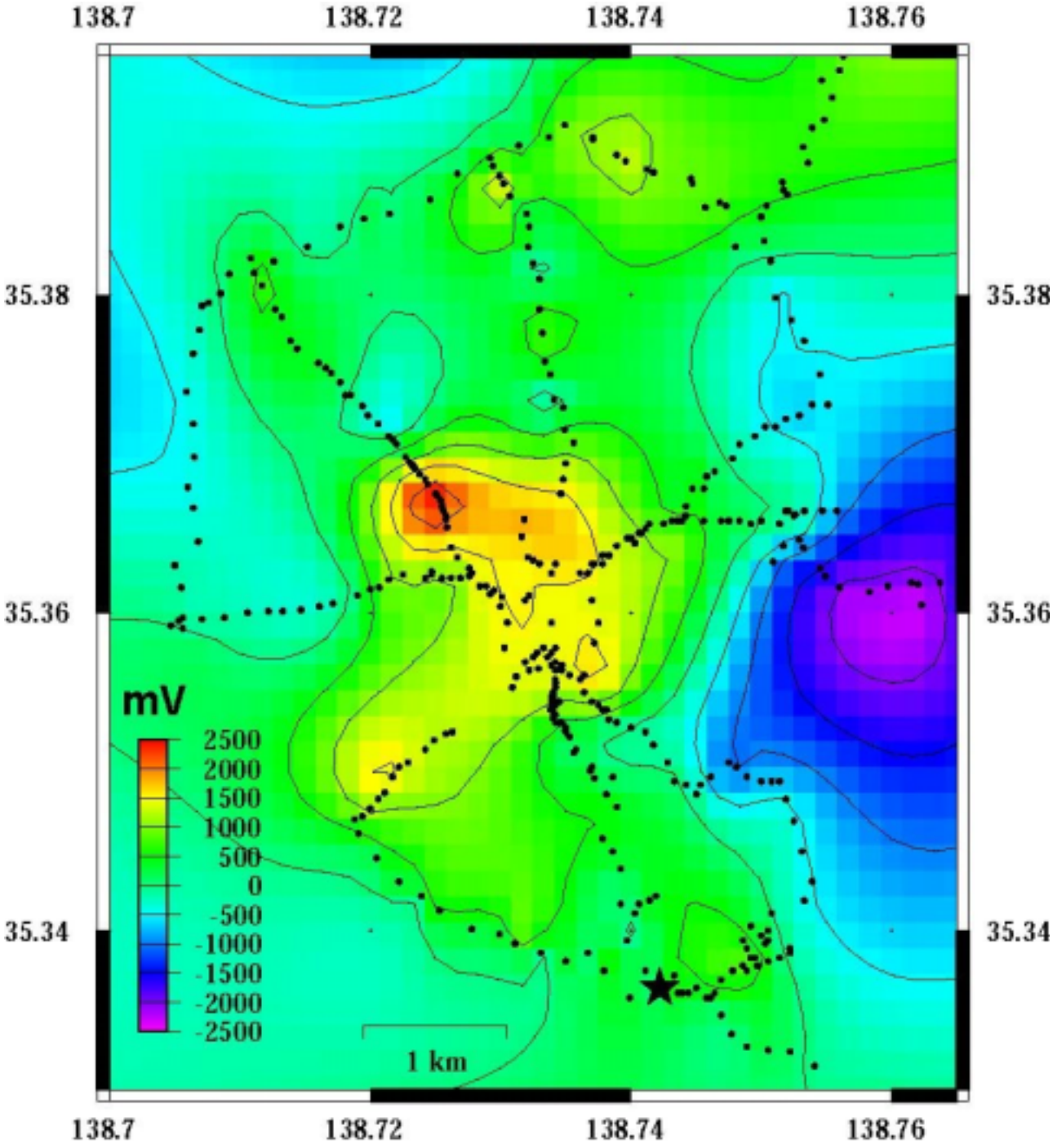

Fig.1　富士山の自然電位分布
コンター間隔は 500 mV