Study for the Possibility of Earthquake Prediction by High density Geoelectric Potential Observations and its Theoratical Approach.

1996 Fiscal Year Final Research Report Summary

Study for the Possibility of Earthquake Prediction by High density Geoelectric Potential Observations and its Theoratical Approach.

Research Project

Project/Area Number

06452412

Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

Single-year Grants

Section

一般

Research Field

Natural disaster science

Research Institution

TOKAI UNIVERSITY (1996)
Kanazawa University (1994-1995)

Principal Investigator

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Project Period (FY)

1994 – 1996

Keywords

Greece / VAN method / Geoelectric potential changes / SES

Research Abstract

Whether the geoelectric potential field exhibits anomalous changes before earthquakes is a matter of long-standing debate. Recently many positive results have been reported for Greek earthquakes by the VAN group. To check their method, similar observations have been carried out in the Central Japan area. We established geoelectric potential monitoring stations at Komatsu, Suzu (Ishikawa Pref.), Toyama (Toyama Pref.), Hamaoka and Shimizu (Shizuoka Pref.), Outaki (Nagano Pref.), Kitafuji (Yamanashi Pref.), and Tsukuba and Hitachi-ohmiya (Ibaragi Pref.) during the Grant period.
It is generally claimed that Japan is a electrically noisy country, therefore this type of study is impossible. To overcome this opinion, we intensively installed both short and long dipoles in a same station. For example, at the Tsukuba station, we observed over thousand of anomalies for only one-pair of short dipole during nine months, however, to apply two-pairs of dipoles, the anomalies decreased only 50. Furthermore, to install 2km-long dipole, the anomaly decreased only one. It means appropriate dipole configuration works even in Japan.
During our observation period, on March 6,1996, we had an M5.8 earthquake at the eastern margin of the Yamanashi Prefecture. Our Kitafuji Station locates 20km apart from the epicenter. At the Kitafuji station, we observed only one anomalous change on January 29,1996. At that moment we had not yet installed a long dipole, therefore artificial noise rejection was not well. However this observation gives us a lot of useful information.
On August 1996, the head investigator visited Athen University to summarize our program and discussed a future research plan.

Research Products (8 results)

All | Other

All | Publications (8 results)

[Publications] Nagao,T,Uyeda,S: "Recenlly Obserued anomulus changes in Geoelectrical Potential proceding earthquakes in Japan" Critical Review of VAN. 292-300 (1996)

[Publications] Nagao,T.Uyeda,S: "An indypendent chock of VAN's Criteria for Signal Recgnition" Geopbysioal Research Leffers. 23. 1441-1444 (1996)

[Publications] Uyeda,S: "Introduction to the VAN Method of Earthquake Prediction" Critical Review of VAN. 3-28 (1996)

[Publications] 長尾年恭: "地震予知はできるか?-地電流による地震予知-" 混相流. 9. 99-104 (1995)

[Publications] 長尾年恭: "地電流と地震-日本における地電流観測-" 地震ジャーナル. 19. 51-59 (1995)

[Publications] Nagao, T., Uyeshima, M.and Uyeda, S: "An independent check of VAN's criteria for signal recognition" Geophysical Research Letters. 23. 1441-1444 (1996)

[Publications] Nagao, T., Uyeda, S., Asai, Y.and Kono, Y: "Recently observed anomalous changes in geoelectric potential preceding earthquake in Japan." Critical Review of VAN (ed.Sir James Lighthill) World Scientific, London, Singapore. 292-300 (1996)

[Publications] S.Uyeda: "Introduction to the VAN method of earthquake prediction." Critical Review of VAN (ed.Sir James Lighthill) World Scientific, London, Singapore. 3-28 (1996)

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