

日本列島全域の詳細な重力異常図の作成

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1989 Fiscal Year Final Research Report Summary

Detailed Gravity Anomaly Map in and around the Japanese Islands

Research Project

Project/Area Number

63540299

Research Category

Grant-in-Aid for General Scientific Research (C)

Allocation Type

Single-year Grants

Research Field

固体地球物理学

Research Institution

Kanazawa University

Principal Investigator

KONO Yoshiteru Kanazawa University Faculty of Science, Department of Earth Sciences, Associate Professor, 理学部, 助教授 (80019489)

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GRAVITY ANOMALY / JAPANESE ISLANDS / SUBSURFACE STRUCTURE / EXPLORATION FOR UNDERGROUND RESOURCES / EARTHQUAKE PREDICTION / GEOLOGICAL STRUCTURE / SEISMICITY / データベース

Research Abstract

We compiled gravity data which were taken from various organizations in Japan. There are four groups of data source: The first is the data measured by ourselves during the last 15 years, numbering more than 10,000; The second is the data measured by the Geographical Survey Institute (GSI) and by the Hydrographic Department for geodetic purposes; The third is the data measured by university researchers for various academic purposes; and The fourth is the data measured by governmental exploration organizations such as the Geological Survey. The total number of data digitally compiled is about 500,000 points of which about 100,000 points are on land and 400,000 are at sea. Each data set is compared with the GSI's data set and both biases of gravity values and inaccuracy of gravimeter coefficients are examined. During these processes, incorrect or suspected data are either corrected or rejected from the data set. After these examination, all data are adjusted to the

International Gravity Standardization Net 1971 (IGSN71) system.

Using the data set thus obtained, we generate detailed gravity anomaly map in and around the Japanese Islands. The map is prepared at a scale of 1:1,000,000 with a contour interval of 2 mgal. Colored (25 gradients) full size maps with an explanatory text and 30 transparent sheets which are indicating seismicity of the Japanese Islands has been published from the University of Tokyo Press.

Research Products (14 results)

All Other

All Publications (14 results)

- [Publications] 河野芳輝: "日本列島の重力異常-日本での重力測定100年-" 科学. 58. 414-422 (1988) ▼
- [Publications] 大久保義弘: "跡津川断層周辺のブーゲ異常と地殻構造" 地震II. 41. 97-102 (1988) ▼
- [Publications] 大久保義弘: "金沢を基点とした北上山地周辺の一等重力点結合-重力定数の改定効果-" 測地学会誌. 34. 1-9 (1988) ▼
- [Publications] 角南基亮: "能登半島南部低地帯周辺の重力構造" 地震II. 41. 173-178 (1988) ▼
- [Publications] 古瀬慶博: "水平方向の密度変化を考慮した重力インバース法による3次元地下構造解析" 地震II. 42. (1989) ▼
- [Publications] Yoshiteru KONO: "Digital Compilation of Gravity Data over the Japanese Islands" Proc.125 Intn.Association of Geodesy(Edinburgh 1989). (1990) ▼
- [Publications] 河野芳輝: "100万分の1日本列島重力異常図[I.カラ-重力異常図3葉、II.地震活動図30枚(OHP)、III.解説書88頁]" 東京大学出版会, 88 (1989) ▼
- [Publications] KONO Y. and N. FURUSE: "Gravity anomalies over the Japanese Islands--the hundredth year of gravity measurements in Japan--." KAGAKU, 58, 414-422, 1988. ▼
- [Publications] OOKUBO Y. and Y. KONO: "Gravity anomalies and crustal structure models around the Atotsugawa fault, central Japan." ZISIN II(J.Seismol.Soc. Japan), 41, 97-102, 1988. ▼
- [Publications] OOKUBO Y. S. KANAI and Y. KONO: "Gravity connections of the first order gravity stations in and around the Kitakami district, northeastern Japan." J. Geod. Soc. Japan, 34, 1-9, 1988. ▼
- [Publications] SUNAMI M. and Y. KONO: "Gravity structure around the Ochi depression in the Noto Peninsula, central Japan." ZISIN II(J.Seismol.Soc.Japan), 41, 173-178, 1988. ▼
- [Publications] FUERUSE N. and Y. KONO: "A Three-dimensional gravity inversion method for layered structures with lateral density variation--An application to the Hokurikudistrict, central Japan--" ZISIN II(J.Seismol.Soc.Japan), 42, 1989. ▼
- [Publications] KONO Y. and N. FURUSE: "Digital Compilation of Gravity Data over the Japanese Islands" Proc. 125 Intn. Association of Geodesy (Edinburgh 1989) 1990. ▼
- [Publications] KONO Y. and N. FURUSE: 1:1 Million Scale Gravity Anomaly Map in and around the Japanese Islands [1.Color Gravity Anomaly Map in and around the Japanese Islands (1:1 Million) 3 Sheets with English technical abstract; II.Seismicity Map (1:1 Million, 2-Color Transparent Films) 30 Sheets; III.Explanatory Text(in Japanese) pp.88].The University of Tokyo Press, (1989) ▼

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