

Proceedings of the NIPR Symposium

on

Antarctic Geosciences

No. 4

Papers presented at the "Tenth Symposium on Antarctic Geosciences" held at the National Institute of Polar Research, Tokyo, October 31–November 1, 1989

CONTENTS

Rb-Sr and K-Ar whole rock ages of the plutonic bodies from the Sør Rondane Mountains, East Antarctica <i>Yuhei TAKAHASHI, Yoji ARAKAWA, Tohru SAKIYAMA, Yasuhito OSANAI and Hiroshi MAKIMOTO</i> ...	1
Metamorphic conditions of ultramafic lenses from the eastern Sør Rondane Mountains, East Antarctica <i>Hiroshi MAKIMOTO, Masao ASAMI and Edward S. GREW</i> ...	9
A staurolite-bearing corundum-garnet gneiss from the eastern Sør Rondane Mountains, Antarctica <i>Masao ASAMI, Edward S. GREW and Hiroshi MAKIMOTO</i> ...	22
Former ice sheet based on the newly observed glacial landforms and erratics in the central Sør Rondane Mountains, East Antarctica <i>Kazuomi HIRAKAWA and Kiichi MORIWAKI</i> ...	41
Ground temperature regimes and their relation to periglacial processes in the Sør Rondane Mountains, East Antarctica <i>Norikazu MATSUOKA, Kiichi MORIWAKI, Shuji IWATA and Kazuomi HIRAKAWA</i> ...	55
Natural remanent magnetizations of granite and syenite from Pingvinane and Lunckeryggen in the Sør Rondane Mountains, East Antarctica <i>Minoru FUNAKI and Katsuyasu TOKIEDA</i> ...	67
Installation of geomagnetic absolute observation point at Seal Rock, East Antarctica, and the absolute observations in 1987 <i>Ryoki SAKAI, Kazuo SHIBUYA and Masaru AYUKAWA</i> ...	80
Seismic observation with local telemetry network around Syowa Station, East Antarctica (2) <i>Junpei AKAMATSU, Nobuo ICHIKAWA and Katsutada KAMINUMA</i> ...	90

Tides and tidal currents in the Antarctic Sea observed at Syowa Station, East Antarctica	<i>Minoru ODAMAKI and Katsujiro OKA</i> ...100
Geoidal undulation and gravity anomaly around the Japanese Antarctic stations estimated from both satellite altimeter data and surface gravity data	<i>Yoichi FUKUDA, Jiro SEGAWA and Katsutada KAMINUMA</i> ...108
Glacial history with special reference to the past lacustrine deposits in the Mt. Riiser-Larsen area, Enderby Land, East Antarctica	<i>Masahisa HAYASHI</i> ...119
Stability of osumilite in granulite facies metamorphism: KMAS system and natural occurrences	<i>Makoto ARIMA, Yoichi MOTOYOSHI and Kazuyuki SHIRAIISHI</i> ...135
Seismic activity of Mount Erebus in 1981–1988	<i>Katsutada KAMINUMA and Ray Russell DIBBLE</i> ...142
Isotopic studies of carbonates from CIROS-1 drillhole, western McMurdo Sound, Antarctica	<i>Hideki WADA and Hakuyu OKADA</i> ...149
Geochemical features of hydroxy acids in soil samples from the McMurdo Dry Valleys, Antarctica	<i>Genki I. MATSUMOTO, Kunihiko WATANUKI and Tetsuya TORII</i> ...165
Glass in mantle-derived peridotite xenoliths from the McMurdo Volcanic Group, Antarctica	<i>Kiyooki NIIDA</i> ...172
Chemical and isotopic characteristics of ice from an ice-wedge in Seymour Island (Isla Vcom. Marambio), Antarctic Peninsula region (I)	<i>Kikuo KATO, Arturo M. CORTE and Masami FUKUDA</i> ...181
Preliminary report of three components of geomagnetic field measured on board the icebreaker SHIRASE during JARE-30, 1988–1989	<i>Yoshifumi NOGI, Nobukazu SEAMA and Nobuhiro ISEZAKI</i> ...191
Paleomagnetic study of ODP Leg 119–Kerguelen Plateau and Prydz Bay	<i>Hideo SAKAI, Minoru FUNAKI, Barbara KEATING and ODP LEG 119 SHIPBOARD SCIENTIFIC PARTY</i> ...201
Arrested charnockite formation in Sri Lanka: Field and petrographical evidence for low-pressure conditions	<i>Yoshikuni HIROI, Masao ASAMI, P. G. COORAY, M. R. D. FERNANDO, J. M. S. JAYATILEKE, Hiroo KAGAMI, V. MATHAVAN, Hiroharu MATSUEDA, Yoichi MOTOYOSHI, Yoshie OGO, Yasuhito OSANAI, Masaaki OWADA, L. R. K. PERERA, K. B. N. PRAME, N. S. RANASINGHE, Kazuyuki SHIRAIISHI, P. W. VITANAGE and Masaru YOSHIDA</i> ...213

Natural remanent magnetization of some rocks from southern Sri Lanka	<i>Minoru FUNAKI, Masaru YOSHIDA and P. W. VITANAGE</i> ...	231
Antarctic geoscience transects QML-1A and -1B (abstract)	<i>Katsutada KAMINUMA</i> ...	241
Experimental study of the syenitic rocks from the Yamato and Sør Ron- dane Mountains, East Antarctica (abstract)	<i>Takanobu OBA and Kazuyuki SHIRAIISHI</i> ...	242
Heterogeneity of lithosphere in the Lützow-Holm Bay region, East Ant- arctica (abstract)	<i>Junpei AKAMATSU</i> ...	243
Gravity tides observed at Syowa and Asuka Stations, Antarctica (abstract)	<i>Fumio OGAWA, Yoichi FUKUDA, Junpei AKAMATSU and Kazuo SHIBUYA</i> ...	244
Classification and modeling of Antarctic inland water by principal com- ponent analysis (abstract)	<i>Shinya KAKUTA and Kunihiko WATANUKI</i> ...	245
Paleomagnetic study of the deep-sea core (ODP Leg 120) from the Kerguelen Plateau, South-Central Indian Ocean (abstract)	<i>Hiroo INOKUCHI and Franz HEIDER</i> ...	246
A reconnaissance geological survey of eastern and southern Africa for the basis of comparative study with Antarctica (abstract)	<i>Masaru YOSHIDA</i> ...	247
Low-pressure granulite-facies metamorphism in the Prydz Bay region, East Antarctica (abstract)	<i>Yoichi MOTOYOSHI, D. E. THOST and B. J. HENSEN</i> ...	248
Program of the Tenth Symposium on Antarctic Geosciences		249
Author index		251