

Proceedings of the NIPR Symposium
on
Antarctic Meteorites
No. 4

Papers presented at the “Fifteenth Symposium on Antarctic Meteorites” held at the National Institute of Polar Research, Tokyo, May 30–June 1, 1990

CONTENTS

Part A: Reports of consortium studies

Consortium reports of lunar meteorite Yamato-793274	
<i>..Hiroshi TAKEDA, Jun SAITO, Keizo YANAI and Hideyasu KOJIMA...</i>	3
Geochemistry of Yamato-82192, -86032 and -793274 lunar meteorites	
<i>....Marilyn M. LINDSTROM, David W. MITTLEFEHLDT, Rene R. MARTINEZ, Michael E. LIPSCHUTZ and Ming-Sheng WANG...</i>	12
Lunar meteorite Yamato-793274: Mixture of mare and highland components, and barringerite from the Moon	
<i>.....Christian KOEBERL, Gero KURAT and Franz BRANDSTÄTTER...</i>	33
U-Pb isotopic characteristics of lunar meteorites Yamato-793274 and Yamato-86032	
<i>.....Mitsunobu TATSUMOTO and Wayne R. PREMO...</i>	56
Varieties of lunar meteorites recovered from Antarctica	
<i>.....Keizo YANAI and Hideyasu KOJIMA...</i>	70
Geochemical investigation of five lunar meteorites: Implications for the composition, origin and evolution of the lunar crust	
<i>.....Paul H. WARREN and Gregory W. KALLEMEYN...</i>	91
Yamato-74063: Chondritic meteorite classified between E and H chondrite groups	
<i>.....Keizo YANAI and Hideyasu KOJIMA...</i>	118
Petrological and geochemical study of the Yamato-74359 and Yamato-74360 achondrites	
<i>.....Yukio IKEDA, Akira TSUCHIYAMA and Mitsuru EBIHARA...</i>	131
Petrology of Yamato-75261 meteorite: An enstatite (EH) chondrite breccia	
<i>.....Hiroko NAGAHARA...</i>	144
Reflectance spectroscopy and mineralogy of primitive achondrites-lodranites	
<i>.....Takahiro HIROI and Hiroshi TAKEDA...</i>	163

Noble gas composition in unique meteorite Yamato-74063	178
..... Nobuo TAKAOKA and Yo-ichi YOSHIDA...	
Petrology and mineralogy of the Yamato-82162 chondrite (CI)	187
..... Yukio IKEDA...	
Mineralogy and petrography of the anomalous carbonaceous chondrites	226
Yamato-86720, Yamato-82162, and Belgica-7904	
..... A. BISCHOFF and K. METZLER...	
Release of organic compounds from some Antarctic CI and CM chondrites	
by laboratory heating	
..... Akira SHIMOYAMA, Masatoshi KOMIYA and Kaoru HARADA...	247

Part B: General topics of Antarctic meteorites and the related subjects

New enclaves in the Vaca Muerta mesosiderite: Petrogenesis and comparison with HED meteorites	263
..... Makoto KIMURA, Yukio IKEDA, Mitsuru EBIHARA and Martin PRINZ...	
Terrestrial alteration of Fe-Ni metals in Antarctic ordinary chondrites and the relationship to their terrestrial ages	307
..... Yukio IKEDA and Hideyasu KOJIMA...	
Metamorphism of CO and CO-like chondrites and comparisons with type 3 ordinary chondrites	319
..... Derek W. G. SEARS, J. David BATCHELOR, Jie LU and Bradley D. KECK...	
Thermoluminescence characteristics and chemical compositions of mesostases in ordinary chondrites	344
.... Kiyotaka NINAGAWA, Hideyuki KUBO, Shin-ichi FUJIMURA, Isao YAMAMOTO, Tomonori WADA, Satoshi MATSUNAMI and Hiroshi NISHIMURA...	
Heavy nitrogen in the Yamato-74191 and the heterogeneity of the primitive solar nebula	352
..... Naoji SUGIURA and Ko HASHIZUME...	
<i>In-situ</i> micro Raman studies on graphitic carbon in some Antarctic ureilites	371
.... Hiroyuki KAGI, Kazuya TAKAHASHI, Hiroshi SHIMIZU, Fumio KITAJIMA and Akimasa MASUDA...	
Pyrolytic nature of carbonaceous matter in carbonaceous chondrites and secondary metamorphism	384
..... Tatsushi MURAE, Fumio KITAJIMA and Akimasa MASUDA...	
Magnetic properties and natural remanent magnetization of carbonaceous chondrites containing pyrrhotite	390
..... Takesi NAGATA, Minoru FUNAKI and Hideyasu KOJIMA...	
Tetrataenite in chondrites and experimental demonstration on formation of tetrataenite fine grains	404
..... Takesi NAGATA, Chihiro KAITO, Yoshio SAITO and Minoru FUNAKI...	

Magnetic microspherules in Permian and Triassic bedded chert from Southwest Japan	
..... <i>Junko IWASHI, Masaru YOSHIDA, Shigeyoshi MIONO, Geetha-SANTOSH and M. SANTOSH</i> ...	420
PIXE analysis of magnetic spherules in Paleozoic-Mesozoic bedded chert	
..... <i>Shigeyoshi MIONO, Hiroaki ONO, Yasuyuki NAKAYAMA, Masazumi SHOJI and Akio NAKANISHI</i> ...	436
Program of the Fifteenth Symposium on Antarctic Meteorites. 442
Author index	446