Papers presented to the 29th Symposium on Antarctic Meteorites held at the National Institute of Polar Research, Tokyo June 7–9, 2005

1. Arai T., Shimoda H., Kita N. and Morishita Y.
   Petrogenesis of basaltic clasts with extreme compositional variations in a brecciated lunar meteorite EET 87521
2. Bérczi Sz., Horvath A., Nagy B., Kereszturi A., Sik A., Pócs T., Gesztesi A., Gánti T. and Szathmary E.
   Comparisons of Martian flow-streaks with DDS origin and their probable counterparts on Antarctica
3. Bérczi Sz., Józsa S., Kovács Zs., Lukács B. and Szakmány Gy.
   Cross sections of chondritic asteroids: Evolutionary stages on the basis of studies of the NIPR Antarctic Meteorite Thin Section Set
4. Burbine T.H., O'Brien K.M. and Buchanan P.C.
   Determining the possible chondritic building blocks of asteroid 4 Vesta
5. Chen M., El Goresy A. and Gillet P.
   Natural intracrystalline transformation of olivine to ringwoodite in a shocked L6 chondrite
6. Dreibus G., Jagoutz E., Brückner J. and the Athena Science Team
   Results of the Mars Exploration Rovers: Chemistry of rocks and soils at Gusev crater and Meridiani Planum
7. Fagan T.J., Nagashima K., Rost D., Vicenzi E.P., MacPherson G.J. and Yurimoto H.
   Oxygen isotopic gradient in melilite in a fine-grained Efremovka CAI: Aqueous alteration or nebular effect?
8. Fritz J., Greshake A. and Stöffler D.
   Brecciation of Y-793605: Indication for two impact events?
9. Grady M.M. and Wright I.P.
   The carbon cycles of Earth and Mars: How have they evolved?
10. Grady M.M., Anand M., Bridges J., Pearson V., Verchovsky A.B. and Franchi I.A.
    Aqueous alteration of nakhlites: Results from Y 000593 and MIL 03346, and implications for water on Mars
11. Hargitai H.I. and Berczi S.
    Meteorite craters and planetary surface evolution: An educational approach
12. Honda M. and Nagao K.
    History of Gibeon meteorite in space
13. Imae N. and Ikeda Y.
    Petrology of MIL 03346
14. Ishida Y., Ninagawa K., Sakamoto M., Toyoda S., Nishido H. and Gucsik A.
    Thermoluminescence studies of shocked minerals and rocks
15. Jagoutz E., Dreibus G., Jotter R., Kubny A. and Zartman R.
    Significance of Pb-Pb isochrons produced by stepwise dissolution of meteorites
16. Kimura M., Grossman J.N., Weisberg M.K. and Nakajima H.
    Fe-Ni metal and spinel group minerals in LL3 chondrites: Metamorphic conditions of highly primitive chondrites
17. Kobayashi S., Tonotani A., Sakamoto N., Nagashima K., Krot A.N. and Yurimoto H.
    Abundances of presolar silicates in primitive carbonaceous chondrites Yamato-81025, ALHA77307, Adelaide and Acfer 094
18. Koizumi E., Chokai J., Mikouchi M. and Miyamoto M.
    Crystallization experiment on lunar mare basalt LAP 02205
19. Komatsu M., Krot A.N., Miyamoto M. and Keil K.
    Mineralogical study of amoeboid olivine aggregates with low-Ca pyroxenes in Y-81020
20. Kusakabe M., Maruyama S. and Kojima H.
    Re-evaluation of SMOW-scale for reporting oxygen isotopic ratios of silicate minerals and $^{17}O/^{16}O$ and

$^{18}O/^{16}O$ ratios of some Antarctic meteorites

21. Marakushev A.A., Bobrov A.V., Zinovieva N.G. and Granovsky L.B.
Origin of SNC meteorites
22. McKay G. and Schwandt C.
The Europium oxybarometer: Can it be applied to nakhlites?
23. Mikouchi T., Koizumi E., Ueda Y., Miyamoto M. and McKay G.
On the relationship between mineralogical characteristics and relative burial depths of nakhlites
24. Misawa K., Yamaguchi A. and Kaiden H.
Zr/Hf fractionation during crystallization of basaltic eucrites: Implication for U-Pb isotopic systematics of eucritic zircons
25. Miura Y. and Kato T.
Fe-Ni-Co-bearing grains and crystallized diaplectic plagiocalses: Evidence of large global impact
26. Nagahara H., Ozawa K. and Tomomura S.
The role of condensation kinetics of silicate melt on the chemical variation of chondrule compositions
27. Nagao K. and Honda M.
Noble gas measurement of Gibeon iron meteorites
28. Nakamuta Y., Owaki R. and Takeda H.
Plagioclase thermometry of Caddo County IAB iron meteorite
29. Nakashima D., Herrmann S., Ott U., Nakamura T. and Noguchi T.
Noble gas study of the Dhofar 018 howardite
30. Noguchi T., Nakamura T., Kimura M., Bischoff A., Osawa T. and Imae N.
Mineralogy of heavily hydrated clasts in Asuka 881020, Acfer 182, and NWA 470 CH chondrites
31. Nyquist L., Yamaguchi A., Bogard D., Shih C.-Y., Reese Y. and Takeda H.
Feldspathic clasts in Yamato-86032: Remnants of a feldspathic lunar crust 4.4 Ga ago
32. Oba Y. and Naraoka H.
Carbon and hydrogen isotopic compositions of acetic acid derived from macromolecular organic matter in the Murchison
33. Ohnishi I. and Tomeoka K.
Hydrothermal alteration experiments of the Allende CV3 chondrite under highly alkaline conditions
34. Okazaki R. and Nakamura T.
Oxygen isotopes and REE abundances of lithic materials in the Begaa LL3 chondrite
35. Ozima M.
Terrestrial atmospheric N and light noble gases in lunar soils: Non-magnetic Earth?
36. Ozono Y., Nakamura T., Miyamoto T. and Kusakabe M.
Matrix olivine as a carrier of large $\Delta^{17}O$ in the NWA 753 R3.9 chondrite
37. Park J., Okazaki R., Nagao K., Bartoschewitz R., Kusakabe M. and Kimura M.
Noble gas and oxygen isotopes of new CH chondrite, SaU 290 with abundant solar gases
38. Rubin A.E., Trigo-Rodríguez J.M. and Wasson J.T.
Progressive aqueous alteration of CM chondrites
39. Rubin A.E.
An evaluation of asteroidal heat sources
40. Seki K., Terada N., Shinagawa H. and Ozima M.
On contribution of terrestrial ion flows to non-solar components in lunar soils: Ion transportation rates from non-magnetic Earth
41. Sugiura N.
^{60}Fe-^{60}Ni systematics of some achondrites measured with an ion probe
42. Takeda H., Yamaguchi A., Otsuki M. and Ishii T.
Mineralogy of four new Dhofar ureilites with reference to their pairing and origin
43. Tamaki M., Yamaguchi A, Misawa K. and Ebihara M.
Highly siderophile elements in silicate clast of Mount Padbury
44. Tatsumi K., Tachibana S., Nagahara H. and Ozawa K.
Experimental study on growth kinetics of metallic iron in vacuum
45. Tazawa Y., Fukuoka T., Fukushi Y., Saito Y., Sakurai H., Suzuki Y., Noguchi T. and Yada T.
Classification of Antarctic Micrometeorites based on their abundance patterns

46. Terada K. and Sano Y.
In-situ U-Pb dating of phosphates in lunar basaltic breccia EET87521 and EET96008
47. Tomioka N., Tomeoka K. and Nakamura K.
Transmission electron microscopy of experimentally shocked Murchison CM chondrite
48. Uesugi M. and Sekiya M.
Formation process of compound chondrules in primitive solar nebula
49. Wang D. and Chen M.
Evidence for the shock metamorphism of GRV 99027
50. Yada T., Stadermann F.J., Floss C., Zinner E., Olinger C.T., Graham G.A., Bradley J.P., Dai Z.R., Nakamura T. and Noguchi T.
The stellar origins of presolar silicates discovered in Antarctic micrometeorites
51. Yamaguchi A., Takeda H., Karouji Y., Ebihara M., Nyquist L.E., Bogard D.D., Shih C.-Y. and Reese Y.
Yamato-86032 lunar meteorite: Implication for impact history of the highland crust
52. Yamamoto Y., Okazaki R. and Nakamura T.
Drastic changes of mineralogy and noble gas compositions in carbonaceous chondrite Ningqiang during experimental aqueous alteration
53. Yamashita K., Ueda T., Nakamura N., Kita N. and Heaman L.M.
Chromium isotopic study of mesosiderite and ureilite: Evidence for ε^{54}Cr deficit in differentiated meteorites

Papers presented to the 30th Symposium on Antarctic Meteorites held at the National Institute of Polar Research, Tokyo June 6–8, 2006

1. Aoki T. and Nakamuta Y.
   The difference of apparent strain of olivine crystals between clastic and nonclastic parts of Naryilco LL 6 chondrite
2. Arai T., Kaiden H., Misawa K. and Kojima H.
   Ion microprobe study of Apollo 14 oldest basalt
3. Barrat J.A.
   New views on diogenites from meteorites from hot and cold deserts
4. Bérczi Sz., Gál-Sólymos K., Gucsik A., Hegyi S., Hudoba Gy., Józsa S., Kókány A., Kubovics I., Lukács B., Puskás Z., Szakmány Gy. and Varga T.
   How we used NIPR Antarctic educational thin section set in planetary and material science studies: 10 years of studies in Eötvös University, Hungary
5. Boldoghy B., Kummert J., Szilágyi I., Varga T. and Bérczi Sz.
   Engineering and thermal balance studies for lunar base construction with on site material utilization and with Antarctic architectural applications
6. Fagan T.J.
   A record of extreme FeO/(MgO+FeO) enrichment during igneous crystallization on the Moon preserved in lunar meteorite Northwest Africa 773
7. Fujitani T. and Nakamura N.
   Analyses of stable chlorine isotopes in chondritic meteorites (1): Preliminary results for ordinary chondrites
8. Fukuoka T., Hoshi N., Tazawa Y., Saito Y. and Azuma K.
   Final answer for the origin of glassy spherules collected from water tank of the Dome Fuji Station
9. Hegyi S., Drommer B., Hegyi A., Biró T., Kókány A., Hudoba Gy., Bérczi Sz. and Hargitai H.
   Field testing of Hunveyor and Husar educational robot in planetary analog sites
10. Herrin J.S., Mittlefehldt D.W. and Humayun M.
    Removal and replacement of primary metal in ferroan lodranite MAC 88177
11. Hirata N., Ishiguro M., Tholen D., Hiroi T., Noguchi T., Sasaki S., Nakamura R. and Saito J.
    The black boulder on the asteroid Itokawa
12. Hiroi T., Abe M., Kitazato K., Abe S., Clark B.E., Sasaki S. and Ishiguro M.
    The S-type asteroid — ordinary chondrite controversy and discoveries by the Hayabusa mission to asteroid 25143 Itokawa
13. Hoffmann V., Rösler W., Patzelt A. and Raeymaekers B.
    Are the local/regional geophysical anomalies and material findings (FeSi components and diamond/fullerene containg carbon spherules) in SE Bavaria related to an impact?
14. Hoffmann V. and Funaki M.
    Comparative magnetic signature of Martian meteorites Yamato 000593, Yamato 000749, Yamato 000802, Yamato 980459, Yamato 793605 and ALH 77005
15. Houzumi T., Oura Y. and Ebihara M.
    Chemical composition of eleven Antarctic HED meteorites
16. Ikeda Y.
    Petrology of unusual ureilite NWA 1241
17. Illés-Almár E.
    A hypothesis paper on the crust thickness of Enceladus
18. Illés-Almár E.
    On the origin of the two Saturnian ring systems
19. Illés-Almár E.
    On the origin of the dark material on Iapetus
20. Imae N. and Ikeda Y.
    Crystallization of nakhlite melts in comparison with synthetic experiments
21. Juhl R.A. and Iyengar RN
    A possible AD552 comet sighting in Japan and its parallels with phenomena associated with the Sarasvati

river of ancient India
22. Kimura M., Weisberg M.K., Suzuki A., Ohtani E. and Sugiura N.
Heterogeneous distribution of high-pressure minerals in the Gujba CB chondrite
23. Koiwa Y. and Ebihara M.
Possible terrestrial weathering effects on platinum group element abundances in Antarctic carbonaceous chondrites
24. Komatsu M., Krot A.N., Fagan T., Miyamoto M., Mikouchi T. and Keil K.
Mineralogy and petrography of the oxidized CV chondrite Yamato 86009
25. Kotsugi M., Wakita T., Guo F., Taniuchi T., Ono K., Taniguchi M. and Maruyama H.
Reading the growth process of iron meteorite by a photoelectron emission microscope (PEEM) with synchrotron radiation
26. Kunikata A., Tomioka N., Nagai T., Narita T. and Yamanaka T.
Static amorphization of plagioclase: Comparison to the formation pressure of diaplectic glass in laboratory shock experiments
27. Kusuno H., Kobayashi M., Fukuoka T. and Kojima H.
Determination of ^{26}Al contents in Antarctic meteorites using extremely low background γ-ray counting system of ICRR, University of Tokyo, for dating of terrestrial age
28. Lee D-C.
Tungsten and molybdenum isotopes in achondrites
29. Mahajan R.R. and Murty S.V.S.
Sources of excess nitrogen in lunar soils: Clues from N and argon in lunar meteorite Y983885
30. Makishima J., McKay G., Le L., Miyamoto M. and Mikouchi T.
Aluminum effect on the calibration of the Eu oxybarometer for nakhlites
31. Marakushev A.A., Zinovieva N.G. and Granovsky L.B.
Triangular chemographic diagram for the mineral assemblages of chondrites and its genetic interpretation
32. Mardon A.A., Lau A.S.C. and Greenspon J.A.
The use of geographic remote sensing, mapping and aerial photography to aid the recovery of blue ice surficial meteorites in the Antarctic
33. Mardon A.A. and Greenspon J.A.
The importance of meteorite recovery for inner solar system development
34. McKay G.A., Schwandt C., Le L., Makishima J., Mikouchi T. and Kurihara T.
Minor elements in Nakhlite pyroxenes: Cr in MIL00346
35. Messenger K., Messenger S., Zolensky M.E. and Keller L.P.
Experimental hydrothermal alteration of anhydrous interplanetary dust particles
36. Mikouchi T. and McKay G.
Shock metamorphism of the Dhofar 378 basaltic shergottite
37. Misawa K., Iwata N., Imae N., Franchi I.A., Greenwood R.C. and Kojima H.
New lherzolitic shergottites from the Yamato Mountains
38. Miura H. and Nakamoto T.
Molten droplet in gas flow: Diversity of chondrule shapes
39. Miura Y.N., Arai T., Karouji Y. and Ebihara M.
Noble gases in the lunar meteorite Yamato 983885, a KREEP-rich lunar regolith breccia
40. Miura Y.
Material evidences of catastrophe at the end of the Permian Period: Carbon-rich spherules with Fe and Ni
41. Miura Y.
Geology, petrology and mineralogy of Takamatsu impact crater in Japan
42. Miura Y.
Carbon contents of Nio meteorite and Hiroshima atomic bomb explosions in atmosphere of the Earth
43. Miyamoto H., Yano H., Scheeres D., Sasaki S., Barnouin-Jha O., Gaskell R.W., Cheng A., Demura H., Fujiwara A., Hashimoto T., Hirata N., Honda C., Ishiguro M., Kubota T., Michikami T., Nakamura A. M., Nakamura R., Saito J., Yokota Y. and Hayabusa Team
Debris migration on the surface of Itokawa: Implications to regolith formations and future sample-return missions
44. Nagahara H., Ozawa K. and Kita N.T.

Condensation origin of chondrules in ordinary chondrites: Evidence from bulk chemical composition and mass-dependent oxygen isotopic fractionation

45. Nagao K. and Bajo K.
Noble gas isotopic composition of Vaca Muerta: Implication for complex history of mesosiderite
46. Nakamoto T.
Compound chondrule formation in shock wave heating model
47. Nakamuta Y.
Raman spectra of carbon minerals in Antarctic ureilites
48. Naraoka H. and Oba Y.
δD variation of macromolecular organic matter from carbonaceous chondrites
49. Ninagawa K., Kuyama T., Imae N., Kojima H. and Yanai K.
Thermoluminescence study of Japanese Antarctic Meteorites IX
50. Noguchi T., Osonoi M., Nakamura T., Tsuchiyama A. and Imae N.
Micrometeorites discovered from surface snow near the Dome Fuji Station, Antarctica
51. Nyquist L.E., Ikeda Y., Shih C.-Y., Reese Y.D., Nakamura N. and Takeda H.
Sm-Nd age and Nd- and Sr-isotopic evidence for the petrogenesis of Dhofar 378
52. Okada T., Shirai K., Yamamoto Y., Arai T., Ogawa K., Inoue T. and Kato M.
Elemental composition of asteroid Itokawa by remote X-ray fluorescence spectrometry and its relation to meteorite types
53. Okuno H., Yamanoi Y. and Saiki K.
Mg-number mapping of Mare Serenitatis with a hyper-spectral telescope
54. Ozawa S., Ohtani E., Suzuki A., Kondo T. and Kimura M.
High-pressure minerals in shock melt veins of L6 chondrites: Constraints on their P-T history
55. Park J. and Bogard D.D.
Ar-Ar dating of Martian meteorite, Dhofar 378: An early shock event?
56. Pócs T., Gánti T., Horváth A., Bérczi Sz., Kereszturi A., Sik A. and Szathmáry E.
Comparison of the cryptobiotic-crusts and surface mineral crusts according to their main characteristics in helping life support mechanisms and their implied role for Martian living organisms
57. Righter K.
The role of Antarctic meteorites in defining new chondrite groups and enhancing our understanding of the early solar system
58. Rudraswami N.G. and Goswami J.N.
Al-Mg isotope systematics in chondrules from UOC ALHA76004 (LL3.3)
59. Sasaki S., Ishiguro M., Hirata N., Abe M., Demura H., Hiroi T., Miyamoto H., Nimura T., Saito J. and Yamamoto A.
Space weathering and movement of surface materials of Itokawa as observed by Hayabusa
60. Shirai N. and Ebihara M.
The petrogenesis of nakhlites inferred from chemical compositions of nakhlites
61. Tachibana S., Yamada M., Nagahara H. and Ozawa K.
Evaporation of forsterite in vacuum: Anisotropic isotopic fractionation of Mg
62. Takeda H., Yamaguchi A. and Kusakabe M.
Asteroidal processes related to strongly recrystallized chondritic materials and augite-bearing lodranite-like meteorites
63. Tazawa Y., Fukuoka T., Hoshi N., Fukushi Y., Saito Y., Noguchi T. and Yada T.
Chemical composition of Micrometeorites collected from Tottuki Point, Sôya Coast, Antarctica
64. Terada K., Yoshida T., Iwamoto N., Aoki W. and Williams I.S.
Speculations on the slow neutron capture process in AGB stars based on the isotopic analyses of SiC grains from the Murchison meteorite
65. Ueda T., Yamashita K. and Kita N.
Chromium isotopic systematics of ureilite
66. Uesugi M. and Uesugi K.
Application of X-ray computed micro-tomography (μCT) to the observation of chondrite chips
67. Yamaguchi A., Tamaki M., Kaiden H., Misawa K. and Ebihara M.
Thermal history of highly metamorphosed eucrites and basaltic clasts in mesosiderites: A comparison

68. Yamamoto Y. and Nagao K.
Noble gases in the Moorabie L3 chondrite: Comparison with sub-Q gas in the enstatite chondrites
69. Zeigler R.A., Korotev R.L., Jolliff B.L., Bunch T.E. and Irving A.J.
Pairing relationships among Northwest African basaltic lunar meteorites based on compositional and petrographic characteristics