

**Program of the 13th Symposium on Polar Meteorology and Glaciology,  
held at National Institute of Polar Research, Tokyo,  
July 12–13, 1990**

- I. Sea Ice and Physical Oceanography (Kay I. OHSHIMA)
  1. Seasonal changes in the sea ice extent and the atmospheric conditions in the Antarctic. Hiroyuki ENOMOTO and Atsumu OHMURA.
  2. Atmosphere–sea ice–ocean interaction in the Sea of Okhotsk. Masaaki WAKATSUCHI and Seely MARTIN.
  3. Ship observations of sea ice situations by video cameras (JARE-30). Haruhito SHIMODA, Tatsuo ENDOH and Nobuo ONO.
  
- II. Atmospheric Circulation and Climate (Koji YAMAZAKI)
  4. A simulation of seasonal variation of the stratospheric circulation in the southern hemisphere. Masaru CHIBA, Koji YAMAZAKI and Kiyotaka SHIBATA.
  5. Polar stratospheric Lagrangian—mean circulation in a GCM annual run. Toshiki IWASAKI.
  6. Climate on the ice sheet influenced by Weddell polynya. Fumihiko NISHIO, Okitsugu WATANABE and Peter JACOB.
  7. Study on the low-level jet formed at the coast, Antarctica. Hyo CHOI.
  
- III. Remote Sensing (Toshio KOIKE)
  8. Digital image mapping of glacier in the Sor Rondane, Antarctica. Frank PATTYN and Hugo DECLEIR.
  9. Seasonal variation of snow cover in the northern hemisphere as determined from NOAA and SMMR maps. Yuki MORINAGA, Tetsuzo YASUNARI and Kooiti MASUDA.
  10. Low-top radar-echoes in Antarctic area. Makoto WADA, Tomoki KOSHIDA, Takao TAKEDA and Guosheng LIU.
  11. Study on frequency dependence of electro magnetic wave–albedo for sea ice—Analysis by multi-layer model. Hisao YAMAKOSHI, Toshio MAEDA, Hayao TAKASHIMA and Akio SAKURAI.
  12. Radio scattering characteristics in ice shelf bottom. Seiho URATSUKA, Fumihiko NISHIO and Shinji MAE.
  
- IV. Poster Session (A)  
(Remote Sensing)
  13. Problems in analyzing MOS-1 MSR data received at Syowa Station, Antarctica. Takashi YAMANOCHI, Tomoyuki OSHIYAMA and Makoto WADA.
  14. Radar observation of snow clouds at Syowa Station in 1989. Hiroyuki KONISHI, Shohei MURAYAMA, Hideo KAKEGAWA, Yasuo SHUDO, Yoshiyuki FUKUYAMA, Yoshio KATOH, Hitomi MIYAMOTO and Sadao KAWAGUCHI.
  15. Clouds observed from ground and NOAA satellite. Makoto WADA, Katsumoto SEKO and Sadao KAWAGUCHI.
  16. Between the special radar echo from within the ice sheet and the configuration of the ground (3). Mitsuo HOSHIYAMA, Akira NISHITSUJI, Fumihiko NISHIO, Makoto WADA and Okitsugu WATANABE.
  17. Experiment of pure ice detection by C-band short pulse radar. Takeshi SUITSU, Akira TAKAHASHI, Seiho URATSUKA, Renji NARUSE, Okitsugu WATANABE and Yoshiyuki FUJII.

## (Ice Core)

18. Ice core analysis at Asuka Station. Nobuhiko AZUMA.
19. Air bubble formation process observed in the G6, Antarctic ice core. Ataru MITANI, Hitoshi SHOJI and Yoshiyuki FUJII.
20. Ice layer observations in the G6, Antarctic ice core. Hitoshi SHOJI, Kazunao MURATA and Yoshiyuki FUJII.
21. Age of ice core of Site-J (Greenland) dated by volcanic activity. Fumihiko NISHIO, Hitoshi SHOJI, Hideki NARITA and Takao KAMEDA.
22. 500 year climate records from Site-J core, Greenland. Yoshiyuki FUJII, Kokichi KAMIYAMA and Okitsugu WATANABE.
23. Formation of ice layers at Site-J, in Greenland. Hideki NARITA, Takao KAMEDA, Hitoshi SHOJI and Fumihiko NISHIO.

## (Ice Sheet and Snow Cover)

24. Distribution of surface features of the ice sheet and accumulation rate, East Queen Maud Land, Antarctica. Teruo FURUKAWA, Katsumoto SEKO, Okitsugu WATANABE and Yoshiyuki FUJII.
25. Possibility of ice sheet variations at the inland dome in East Queen Maud Land. Renji NARUSE.
26. On  $\delta^{18}\text{O}$  of snow, snow temperature and snow accumulation on the Antarctic ice sheet. Kazuhide SATOW and Okitsugu WATANABE.
27. Hydrogen peroxide in snow. Kokichi KAMIYAMA and Eiichiro NAKAYAMA.
28. Study of glacier dynamics and mass balance at mountain glacier, Sør Rondane Mountains. Hideaki MOTOYAMA, Nobuhiko AZUMA, Shuji FUJITA and Yutaka AGETA.
29. Ice fabric pattern, strain-rate and distribution of meteorites in Nansenisen, Dronning Maud Land, Antarctica. Shuji FUJITA, Nobuhiko AZUMA, Shinji MAE, Hiroshi NARAOKA and Keizo YANAI.

## (Meteorological and Glaciological Observations)

30. The records of automatic weather station at L0, Japanese Antarctica Research Expedition. Tatsuo ENDOH, Hideaki MOTOYAMA, Nobuhiko AZUMA, Shigemi MESHIDA and Tokio KIKUCHI.
31. Meteorological observations in bare ice field around Sør Rondane Mountains. Shuhei TAKAHASHI, Tatsuo ENDO, Nobuhiko AZUMA and Shigemi MESHIDA.
32. Long term creep of uninhabited shallow snow tunnel at Mizuho Station in Antarctica. Toshio SATO, Toshio HANNUKI, Kenji ISHIZAWA and Sumito WATANABE.

## V. Poster Session (B)

## (Sea Ice and Physical Oceanography)

33. Ice edge fluctuation in the Shirase Glacier, Antarctica. Fumihiko NISHIO, Kouhei CHOU and Takayuki ISHIKAWA.
34. The unusual low temperature and the change of sea-ice area observed in 1988 around Syowa Station in Antarctica. Yasuo SHUDO, Yoshiyuki FUKUYAMA, Yoshio KATO, Hitomi MIYAMOTO and Kiyotomi SATO.
35. Ship observations of albedo over the sea ice area of Japanese Antarctic Research Expedition. Tatsuo ENDOH, Haruhito SHIMODA, Yuki MORINAGA and Nobuo ONO.
36. Drifting of a huge iceberg. Sadao KAWAGUCHI.

## (Atmospheric Circulation and Climate)

37. Influences of topography and orography of Antarctica on the general circulation of the Southern Hemisphere. Akio KITOH.
38. Year-to-year change of zonal mean wind, Antarctica. Kohji KAWAHIRA and Toshihiko HIROOKA.

39. The influence of auroral jet-current on the lower atmospheres. Kyo SEKIHARA.
40. On a research plan for polar atmospheric circulation processes with use of wind profilers. Hiroshi KANZAWA.
41. Climatology of katabatic wind revealed by satellite image. Katsumoto SEKO.
42. The variation of surface topography (undulation) in the Antarctic ice sheet. Katsumoto SEKO, Teruo FURUKAWA, Okitsugu WATANABE, Yoshiyuki FUJII and Fumihiko NISHIO.
43. Climatic classification of Mizuho Plateau through mobile observation data. Jiro INOUE.

## (Ozone)

44. The change of total ozone amount at Syowa Station from Feb. 1989 to Jan. 1990. Yasuo SHUDO, Yoshiyuki FUKUYAMA, Yoshio KATO and Hitomi MIYAMOTO.
45. Observations for thickness of stratospheric ozone by yeast. Eisei TAKUSHI, Kohji HIRATA, Shinji MATSUMOTO and Masako FURUSE.
46. Continuous measurement of surface ozone concentration at Syowa Station. Shuhji AOKI, Sadao KAWAGUCHI, Masayuki KUNUGI, Tsuguo MIZOGUCHI, Shohei MURAYAMA and Takakiyo NAKAZAWA.

## (Atmospheric Constituents)

47. A simulation of CO<sub>2</sub> transport from the Northern Hemisphere to the Southern Hemisphere. Koji YAMAZAKI and Masaru CHIBA.
48. Variations of atmospheric CO<sub>2</sub> concentration over the Antarctica. Takakiyo NAKAZAWA, Shohei MURAYAMA, Masayuki TANAKA, Shuhji AOKI, Takashi YAMANOUCI, Sadao KAWAGUCHI, Masashi FUKABORI, Masataka SHIOBARA and Yukio MAKINO.
49. DMS concentration over the coastal region. Seiji KOGA and Hiroshi TANAKA.
50. Behavior of N- and S-compounds in the Antarctic atmosphere—Observation plan of JARE-32—. Masahiko HAYASHI, Yasunobu IWASAKA, Yutaka KONDO, Masahiro NAGATANI, Akira NAKATA, Hiroshi TANAKA, Seiji KOGA, Satoru KANAMORI, Nobuko KANAMORI, Masahiko YAMATO, Shigeru TANAKA, Keiiti HURUYA, Nobuyuki NAKAI, Sadao KAWAGUCHI, Shuhji AOKI and Takashi YAMANOUCI.
51. Infrared spectroscopic measurement at Syowa Station. Isao MURATA, Kazuyuki KITA, Naomoto IWAGAMI and Toshihiro OGAWA.
52. Aerosol distribution and temperature in the Antarctic stratosphere—Aerosol sonde observations—. Yasunobu IWASAKA, Masahiko HAYASHI, Yutaka KONDO, Masami TAKAGI, Masahiro KANEDA, Hiroshi MATSUBARA, Shouhei MURAYAMA, Sadao KAWAGUCHI, Shuhji AOKI and Takashi YAMANOUCI.
53. Development of the millimeter/submillimeter wave radiometer/spectrometer system for observing ozone and trace gases in the middle atmosphere. Harunobu MASUKO and Satoshi OCHIAI.
54. ILAS mission at the polar region after 1995. Makoto SUZUKI, Tatsuya YOKOTA, Yasuhiro SASANO and Akiyoshi MATSUZAKI.

## VI. Ice Core (Hideki NARITA)

55. Extraction of the air from ice core and determination of CO<sub>2</sub> and CH<sub>4</sub> concentration. Takakiyo NAKAZAWA, Toshinobu MACHIDA, Kenji ESUMI, Masayuki TANAKA, Yoshiyuki FUJII, Shuhji AOKI and Okitsugu WATANABE.
56. Analysis of CO in Antarctic ice core samples. Yasunori TOHJIMA, Takeshi TOMINAGA, Yoshihiro MAKIDE and Yoshiyuki FUJII.
57. Improvement of system for measuring microwave dielectric constant of ice core. Shinji MAE, Shuji FUJITA, Takeo HONDOH and Kazutsugu NOMURA.
58. Uniaxial compression tests of shallow ice cores from polar ice sheets. Hitoshi SHOJI, Takao KURODA, Masanori KOBAYASHI and Yoshiyuki FUJII.
59. Melt feature distribution in an ice core from Site J, Greenland. Takao KAMEDA, Hideki NARITA, Hitoshi SHOJI, Fumihiko NISHIO and Okitsugu WATANABE.

- VII. Ice Sheet and Snow Cover (Kokichi KAMIYAMA)
60. Annual variation of aerosol composition at Syowa Station. Satoru KANAMORI, Nobuko KANAMORI, Masataka NISHIKAWA, Tsuguo MIZOGUCHI, Shuhji AOKI, Okitsugu WATANABE and Sadao KAWAGUCHI.
  61. Chemical constituents in the snow on the Mizuho Plateau. Nobuko KANAMORI, Satoru KANAMORI, Katsumoto SEKO, Teruo FURUKAWA, Okitsugu WATANABE and Masataka NISHIKAWA.
  62. Chemical constituents of snow cover on the Mizuho Plateau. Okitsugu WATANABE, Teruo FURUKAWA, Katsumoto SEKO, Nobuko KANAMORI and Satoru KANAMORI.
  63. Oxygen isotope profiles of deposited snow in different depositional environments of the Antarctic ice sheet. Yutaka AGETA, Kokichi KAMIYAMA, Hideki NARITA and Kazuhide SATOW.
  64. Variations of oxygen isotopic composition and distribution of continental ice in the Last Ice Age. Kikuo KATO.
  65. Problems in accumulation and erosion process on ice sheet in Antarctica. Shuhei TAKAHASHI.
- VIII. Meteorological and Glaciological Observations (Yuji KODAMA)
66. On the vertical profiles of longwave radiation at the Syowa Station in Antarctica. Nozomu OHGAWARA and Masaatsu MIYAUCHI.
  67. Radiation budget observation at Asuka Station (II). Teruo AOKI and Takashi YAMANOUCHI.
- IX. Snow and Ice Crystals (Akira YAMASHITA)
68. Measurement of falling snowflakes at Syowa Station. Hiroyuki KONISHI, Ken-ichiro MURAMOTO, Toru SHIINA, Tatsuo ENDOH and Koh'ichi KITANO.
  69. Diffusion of air molecules in ice. Tsutomu UCHIDA, Takeo HONDOH, Shinji MAE and Junichi KAWABATA.
- X. Ozone (Kohji KAWAHIRA)
70. UVB radiation magnification factor and total ozone. Tomoyuki ITO, Takeo UENO, Ryoichi KAJIHARA, Masanori SHITAMICHI, Tetsuro UEKUBO, Mahito ITO and Masato KOBAYASHI.
  71. On the relationship between total ozone and stratospheric temperature (Regression analysis of daily value). Shigeru CHUBACHI.
  72. Denitrification and ozone destruction in the Arctic stratosphere. Yutaka KONDO, Yasunobu IWASAKA, Makoto KOIKE, Masahiko HAYASHI, P. AIMEDIEU, W. A. MATTHEWS and D. W. FAHEY.
  73. Ozone variation in the winter Arctic stratosphere, 1990. —CHEOPS III Campaign—. Masahiko HAYASHI, Yutaka KONDO, Yasunobu IWASAKA, P. AIMEDIEU, W. A. MATTHEWS, P. V. JOHNSTON, M. HELTEN and U. SCHMIDT.
- XI. Atmospheric Constituents (Takakiyo NAKAZAWA)
74. Concentration distribution of arsenic and selenium compounds in the marine atmosphere and their emission from the ocean. Shigeru TANAKA, Yoshikazu HASHIMOTO and Masaru NAKAMURA.
  75. Long range transport of soil particle and pollutant to marine atmosphere and their concentration distribution. Katsutaka OKAMORI, Shigeru TANAKA and Yoshikazu HASHIMOTO.
  76. Concentrations of sulfur compounds (MSA,  $\text{SO}_2$  and  $\text{nss-SO}_4^{2-}$ ) in the marine atmosphere and estimation of biogenic sulfur emission from the sea. Motohiro MACHIDA, Shigeru TANAKA and Yoshikazu HASHIMOTO.
  77. Biogeochemical sulfur cycle in the marine boundary layer over the Antarctic ocean. Seiji KOGA, Masahiko HAYASHI, Hiroshi TANAKA and Yasunobu IWASAKA.

78. Carbon contents of aerosols at Syowa Station. Masataka NISHIKAWA, Satoru KANAMORI, Nobuko KANAMORO, Shohei MURAYAMA, Shuhji AOKI, Akira SHIMIZU and Tsuguo MIZOGUCHI.
79. Hygroscopic aerosols at the South Pole. Takeshi OHTAKE, Kikuo OKADA and Masahiko YAMATO.
80. Variations of trace gases and aerosols in the Antarctic stratosphere—Observation plan of JARE-32—. Masahiko HAYASHI, Yasunobu IWASAKA, Yutaka KONDO, Makoto KOIKE, Masahiro KANEDA, Tetsuji TORIYAMA, Sadao KAWAGUCHI, Shuhji AOKI, Takashi YAMANOUCHI and W. A. MATTHEWS.
81. Comparison of atmospheric turbidity trends over Syowa Station and Tsukuba. Tetsuro UEKUBO, Kouji MATSUBARA, Motohisa DOI and Kenji OKADA.
82. Nitric acid in aerosols collected in the winter Arctic stratosphere—TECHNOPS and CHNOPS III campaigns—. Yasunobu IWASAKA, Masahiko HAYASHI, Kikuo OKADA, Yutaka KONDO, Takasi OGUTI, Masahiro KANEDA, Tetsuji TORIYAMA, Masahiko YAMATO, Seiji KOGA, P. AIMEDIEU and W. A. MATTHEWS.