

PROGRAMME OF SESSIONS

Saturday, 5 September 1998

00830-0915 *h* CHAIR: Qin Dahe

OPENING OF SYMPOSIUM: GUO Kun, Vice Governor, Gansu Province

Heinz Miller, Chairman, SCAR Working Group on Glaciology

C. Simon L. Ommanney, Secretary General, International Glaciological Society

Shi Yafeng, Honorary Director, Lanzhou Institute of Glaciology and Geocryology,
Chinese Academy of Science

Shao Liqin, Director, Basic Science Department, Science and Technology Ministry of China

Chen Liqi, Director, Polar Research Administration, State Oceanic Bureau of China

Huang Dingcheng, Vice Director, Bureau of Science and Technology for Resources and
Environment, Chinese Academy of Science

JiaWenfu, Vice Director, Science and Technology Committee of Gansu Province

0915-1000 h

CHAIR: T. H. Jacka

PLENARY LECTURE

Qin Dahe: Physical processes and environmental record in the near-surface layer of the Antarctic ice sheet: a review of Chinese Antarctic glaciological research

1000-1250 h

CHAIR: T. H. Jacka

SESSION 1: MASS BALANCE STUDIES

K. C. Jezek: Glaciological properties of the Antarctic ice sheet from RADARSAT-1 synthetic aperture radar imagery

H.J. Zwally, A. C. Brenner and J. DiMarzio: Ice-surface elevation changes in East Antarctica from satellite altimetry

R. A. Bindschadler, P. Vornberger and W. Seider: Declassified satellite photography show large changes in Ice Stream B, West Antarctica since 1963

P. Skvarca, W. Rack and H. Rott: 34 year satellite time series to monitor characteristics, extent and dynamics of Larsen B Ice Shelf, Antarctic Peninsula

W. Rack, H. Rott, A. Siegel and P. Skvarca: The motion field of northern Larsen Ice Shelf, Antarctic Peninsula, derived from satellite imagery

I. E. Tabacco, A. Zirizzotti and M. Frezzotti: Ice discharge of eastern Dome C drainage area inferred from new airborne radar survey and satellite image analysis

D. Steinhage, U. Nixdorf, U. Meyer and H. Miller: New maps of the ice thickness and subglacial topography in Dronning Maud Land, Antarctica, determined by means of airborne radio-echo sounding

1400-1730 h

CHAIR: Qin Dahe

SESSION 2: MASS BALANCE STUDIES

D. Yi and C. R. Bentley: Geoscience laser altimeter system waveform simulation and its applications

L. Ximenis, J. Calvet, J. Enrique, J. Corbera and G. Furdada: Ice velocity and thinning rate measurements from Johnsons Glacier (Livingston Island, South Shetland Islands, Antarctica)

Yu. Ya. Macheret and M.Yu. Moskalevsky: Ice thickness and volume of the ice caps in South Shetland Islands, Antarctica

R. Bindschadler, C. Xin and P. Vornberger: The onset of Ice Stream D, West Antarctica

Yu.Ya. Macheret and M.Yu. Moskalevsky: Study of Lange Glacier on King George Island, Antarctica

A. Lambrecht, C. Mayer, H. Oerter and U. Nixdorf: Investigations of the mass balance of the Ronne Ice Shelf, Antarctica

C. Richardson and P. Holmlund: Spatial variations in depth of shallow snow layers along an ice divide in central Dronning Maud Land, East Antarctica

B. Riedel, U. Nixdorf, M. Heinert, A. Eckstaller and C. Mayer: The response of Ekström Ice Shelf in the grounding zone to tidal forcing

Wang Shijie, Ouyang Ziyuan and Xiao Zhifeng: Palaeoclimatic cycles, global environmental change and new glacial periods induced by the impact of extraterrestrial bodies

Sunday, 6 September 1998

0900-1040 h

CHAIR: H. Miller

SESSION 3: MASS BALANCE STUDIES

- J.-L. Tison, A. Khazendar, B. Stenni, A. Bondesan and R. Souchez: Marine ice accretion in bottom crevasses near the grounding line (Nansen Ice Shelf, Terra Nova Bay, Ross Sea)
- W.L.Wang and R. G. Warner: Modeling of anisotropic ice flow in Law Dome, East Antarctica
- Xie Zichu, Hanjiankang, V. V. Bugrovsky and A. M. Buzin: The relationship between mass balance of the Antarctic ice sheet and sea level variation during global warming
- F. Pattyn: The variability of Antarctic ice-sheet response to the climatic signal
- Ren Jiawen, Qin Dahe and I. Allison: Variations of snow accumulation and temperature over past decades in the Lambert Glacier basin, Antarctica

1130-1230 h

CHAIR: H. Miller

SESSION 4: TECHNICAL ADVANCES

- U. Nixdorf, D. Steinhage, U. Meyer, L. Hempel, M. Jenett, P. Wachs and H. Miller: A newly developed airborne radio echo sounding system as a glaciological tool
- Wang Yun and N. Azuma: The development of an automatic ice fabric analyser using image-analysis techniques
- G. Festa and A. Rossi: Thermal conductivity measurement (TGM) of ice cores: devices and procedures

1420-1710h

CHAIR: E. Wolff

SESSION 5: ICE/ATMOSPHERE/OCEAN INTERACTION

- G. Delaygue, V. Masson and J. Jouzel: The origin of Antarctic precipitation: a modelling approach
- G. J. Marshall, J. Turner and R. Mulvaney: On the association between the spatial distribution of cyclones over the Southern Ocean and Antarctic accumulation
- Qin Dahe, P. A. Mayewski, Ren Jiawen, Xiao Gunde and Sun Junying: The Weddell Sea region: an important precipitation channel to the interior of the Antarctic ice sheet as revealed by glaciochemical investigation of surface snow along the longest trans-Antarctic route
- R. Bintanja, C. Reijmer, H. Snellen and M. Thomassen: Spatial variations in the surface energy and mass budget in the vicinity of an Antarctic blue ice area during summer
- G. Reijmer, W. Greuell and J. Oerlemans: The annual cycle of meteorological variables and the surface energy balance on Berkner Island, Antarctica
- X. Wu, W. F. Budd and T. H. Jacka: Simulations of Southern Hemisphere warming and Antarctic sea-ice changes using global climate models
- P. Bond: Monte Carlo modeling of light propagation through spatially variable sea ice

Monday, 7 September 1998

0900-1250 h

CHAIR: P. A. Mayewski

SESSION 6: PALEOENVIRONMENTAL RECORDS

- M. Guglielmin and F. Dramis: Permafrost as a climatic indicator in northern Victoria Land, Antarctica
- Dome F Ice Core Research Group (O. Watanabe, K. Kamiyama, H. Motoyama, Y. Fujii, H. Shoji and K. Satow): Studies on global paleoclimate signals, recorded on the deep ice core from Dome Fuji Station, East Queen Maud Land, Antarctica
- I. Basile, J.-R. Petit, F. Grousset, N. Dunbar, N. I. Barkov and V. Ya. Lipenkov: Volcanic ash layers in the Vostok ice core: origin and implications
- Y. Fujii, M. Kohno, H. Motoyama, S. Matoba, O. Watanabe, S. Fujita, N. Azuma, T. Kikuchi and T. Fukuoka: Volcanic signals during last 350,000 years revealed from Dome Fuji ice core, Antarctica
- B. Stenni, R. Gaglioli, L. Cimino, G. Cremisini, O. Flora, R. Gragnani, A. Longinelli, V. Maggi and S. Torcini: Volcanic records in the last 200 years in a firn core from Hercules Névé (Northern Victoria Land, Antarctica)
- R. Udisti, G. Barbante, E. Castellano, S. Vermigli, R. Traversi, G. Gapodaglio and G. Piccardi: Characterization of a volcanic event at Terra Nova Bay (Antarctica) by chemical ice core profiles
- Hanjiankang, Xie Zichu, Dai Fengnian and Zhang Wanchang: Volcanic eruption sequences recorded in an ice core from Collins Ice Gap, King George Island, Antarctica
- B. Stenni, R. Gaglioli, C. Cremisini, M. D. Cassan, M. Filipazzi, O. Flora, M. Frezzotti, R. Gragnani, J. Jouzel, M. Stievenard and S. Torcini: A record of volcanic activity and accumulation rate at Talos Dome (East Antarctica)
- Li Zhongqin, Qin Dahe, Zhang Mingyuan and Lijun: Glaciological study on ice core and shallow snow pit samples recovered along the route of the 1996/97 Chinese Antarctic Traverse
- J. Cole-Dai and E. Mosley-Thompson: The Pinatubo eruption in Antarctic snow and its potential value to ice-core paleovolcanic records

1400-1710 h

CHAIR: Renjiawen

SESSION 7: PALEOENVIRONMENTAL RECORDS

- E. Wolff: Processes controlling chemical concentrations seen in Antarctic coastal and inland ice cores
- YaoTandong and J.-R. Petit: A comparative study of dust records between Antarctic and Tibetan ice cores
- V. Maggi, R. Udasti, J.-R. Petit and B. Stenni: Influences of dust sources on Northern Victoria Land (Antarctica)
- Wang Dali, Kangjiancheng, Wenjiahong and Liu Leibao: Characteristics and implications of microparticles in surface snow samples along the 330 km glaciological profile from Zhongshan Station to inland Antarctica
- Liu Leibao, Tan Dejun, Wang Dali, Kangjiancheng and Wenjiahong: Chemical composition distribution of surface snow samples from the first Chinese Antarctic inland traverse from Zhongshan Station to Dome A
- J.-R. Petit, I. Basile, J. Jouzel, M. Delmotte, J. Chappellaz, A. N. Salamatina, V. Ya. Lipenkov, N. I. Barkov and R. Vostresov: Basal ice studies from the 3623 m Vostok deep ice core: preliminary investigations and implications
- F. Vimeux, V. Masson, J. Jouzel, M. Stievenard and J.-R. Petit: The deuterium excess over the last climatic cycle and the Holocene in the Vostok ice core
- R. Mulvaney and D. A. Peel: Recent accumulation history from a series of Antarctic Peninsula ice cores
- H. Oerter, W. Graf, F. Wilhelms, A. Minikin and H. Miller: Accumulation studies on Amundsenisen, Dronning Maud Land, by means of tritium, δD and stable isotope measurements: first results from the 1995/96 and 1996/97 field season

Tuesday, 8 September 1998

0900-1100 h

CHAIR: Lijun

SESSION 8: PALEOENVIRONMENTAL RECORDS

- R. Mulvaney and others: Palaeoclimate of the Antarctic Weddell Sea region from ice core records
- Wang Ninglian, Yao Tandong, Qin Dahe, L. G. Thompson, E. Mosley-Thompson, J. Cole-Dai, M. E. Davis and P.-N. Lin: New evidence for enhanced cosmogenic isotope production rate in the atmosphere ~ 36 kyr BP
- V. Ya. Lipenkov, A. N. Salamatina, N. I. Barkov, L. Arnaud, P. Duval and T. Hondoh: Past climatic changes imprinted in air bubble size and number variations in polar ice
- T. D. Van Ommen, V. I. Morgan, T. H. Jacka, S. Woon and A. Elcheikh: Near-surface temperatures in the Dome Summit South (Law Dome, East Antarctica) borehole
- D. Dahl-Jensen, V. Morgan and A. Elcheikh: Monte Carlo inverse modelling of the Law Dome (Antarctica) temperature profile
- D. Raynaud, J.-R. Petit, M. Delmotte, J. Chappellaz, L. Pepin, J.-M. Barnola, M. Legrand, C. Lorius, J. Jouzel, M. Stievenard, N. I. Barkov, V. Lipenkov, V. Kotlyakov and M. Bender: Four glacial-interglacial cycles recorded in the Vostok ice core

1130-1230 h

CHAIR: Lijun

SESSION 8: PHYSICS AND CHEMISTRY OF ICE

- P. A. Mayewski and K. J. Kreutz: Ice core glaciochemical records of late Holocene climatic variability in West Antarctica
- R. Udasti, S. Becagli, E. Castellano, R. Traversi, S. Vermigli and G. Piccardi: Biogenic contribution to sulphur budget in northern Victoria Land (Antarctica)
- N. Azuma and K. Goto-Azuma: Simulation of textural evolution in polar deep ice cores by a grain growth-kink model

Wednesday, 9 September 1998

0830-1120 h

CHAIR: D. Dahl-Jensen

SESSION 9: PHYSICS AND CHEMISTRY OF ICE

- K. J. Kreutz, P. A. Mayewski, M. S. Twickler, S. I. Whitlow, J. W. C. White, C. A. Shuman, C. F. Raymond, H. Conway and J. R. McConnell: Seasonal variations of glaciochemical, isotopic, and stratigraphic properties in Siple Dome, West Antarctica, surface snow
- E. Wolff, I. Basile, J.-R. Petit and J. Schwander: Comparison of Holocene electrical records from Dome C and Vostok, Antarctica
- Qin Dahe, P. A. Mayewski, W. B. Lyons, Sun Junying and Hou Shugui: Lead pollution in Antarctic surface snow revealed along the route of the International Trans-Antarctic Expedition
- M. Legrand, E. Wolff and D. Wagenbach: Antarctic aerosol and snowfall chemistry: implications for deep Antarctic ice-core chemistry
- Hou Shugui, Qin Dahe and Renjiawen: Different post-depositional processes of NO_3^- in snow layers in East Antarctica and on the northern Qinghai—Tibetan Plateau
- Xiao Cunde, Qin Dahe, Yao Tandong, Renjiawen and Li Yuefang: Contents and sources of lead in precipitation in polar regions and Qinghai—Tibetan Plateau
- J. C. Simões, A. J. Aristarain, M. Pourchet, M. Stievenard, R. T. Bernardo and F. A. Ferron: Snow chemistry on King George Island, South Shetlands, Antarctica

SESSION 10: POSTERS — MASS BALANCE STUDIES

- G. E. Rosanova and B. K. Lucchitta: ERS-1 digital image mosaic of the Antarctic Peninsula
- G. Liu, G. R. Bentley and N. E. Lord: Velocity difference between the surface and base of Ice Stream B2, West Antarctica, from radar fading-pattern experiment
- J. G. Simões, U. F. Bremer, F. E. Aquino and F. A. Ferron: Morphology and variations of glacial drainage basins in the King George Island ice field, Antarctica
- W. Graf, O. Reinwarth, H. Oerter, C. Mayer and A. Lambrecht: Surface accumulation on Foundation Ice Stream, Antarctica
- Liu Zongxiang, Renjiawen, Shao Wenzhang and Wang Wenti: Comparison of the accumulation series from ice cores in the Lambert Glacier Basin, East Antarctica and Tibetan Plateau
- Liu Zongxiang, Renjiawen, Wang Wenti and Shao Wenzhang: Study on the surface strain-rate tensor of Nelson Ice Cap, Antarctic
- Jing Zhefan and Hanjiankang: Analysis of the movement of Collins Ice Cap, King George Island, Antarctica
- R. S. W. van de Wai, J. J. van Roijen, K. van der Borg, A. F. M. de Jong, J. Oerlemans and C. H. Reijmer: Validation of an ice flow model for Scharffenbergbotnen, Antarctica by ^{14}C measurements of surface ice
- M. Meneghel, A. Bondesan, M. G. Salvatore and G. Orombelli: A model of the glacial retreat of the upper Rennick Glacier, Victoria Land, Antarctica
- M. Stenberg, M. Hansson, P. Holmlund and L. Karlöf: Variability in snow layering and snow chemistry in the vicinity of two drill sites in western Dronning Maud Land, Antarctica

SESSION 10: POSTERS — PALEOENVIRONMENTAL RECORDS

- E. Isaksson, M. R. van den Broeke, J.-G. Winther, L. Karlöf, J. F. Pinglot and N. Gundestrup: Accumulation and proxy-temperature variability in Dronning Maud Land, Antarctica, determined from shallow firn cores

SESSION 10: POSTERS — PHYSICS AND CHEMISTRY OF ICE

- R. Udisti, E. Gastellano, R. Traversi, B. Stenni, V. Maggi, D. Fritzsche and O. Flora: Chemistry, stable isotope and physical properties of the Dome G surface snow (East Antarctica)
- Zhang Mingyuan, Li Zhongqin, Qin Dahe and Li Jun: Glaciological study of two snow pits recovered on the route of the 1996/97 Chinese Antarctic traverse
- Sunjunying, Renjiawen, Qin Dahe and Wang Xiaoxiang: Sulfur-containing species in a snow pit in the Lambert Glacier basin, East Antarctica
- Huo Wenmian, YaoTandong and Li Yuefang: Atmospheric pollution revealed by Pb concentration of polar regions and Dasuopu ice core

SESSION 10: POSTERS — SNOW AND ICE PROPERTIES

- N. Azuma, Y. Wang, K. Mori, H. Narita, T. Hondoh, H. Shoji and O. Watanabe: Textures and fabrics in the Dome F (Antarctica) ice core
- A. Miyamoto, H. Narita, T. Hondoh, H. Shoji, K. Kawada, O. Watanabe, D. Dahl-Jensen, N. S. Gundestrup, H. B. Clausen and P. Duval: Ice-sheet flow conditions deduced from mechanical tests of ice core
- S. Fujita, H. Maeno, S. Uratsuka, T. Furukawa, S. Mae, Y. Fujii and O. Watanabe: Distribution of the shear zones in the Antarctic ice sheet detected by radar sounding
- H. Narita, N. Azuma, T. Hondoh, M. Fujii, M. Kawaguchi, S. Mae, H. Shoji, T. Kameda and O. Watanabe: Characteristics of air bubbles and hydrates in the Dome F ice core, Antarctica
- S. Gerland, H. Oerter, J. Kipfstuhl, F. Wilhelms, H. Miller and W. D. Miners: Density log of a 181 m long ice core from Berkner Island, Antarctica

SESSION 11: SNOW AND ICE PROPERTIES

- A. N. Salamatina, V. Ya Lipenkov, T. Hondoh and T. Ikeda: Simulated features of the air-hydrate formation process in the Antarctic ice sheet at Vostok
- A. Hori, K. Tayuki, H. Narita, T. Hondoh, S. Fujita, T. Kameda, H. Shoji, N. Azuma, K. Kamiyama, Y. Fujii, H. Motoyama and O. Watanabe: A detailed density profile of the Dome Fuji (Antarctica) shallow ice core by X-ray transmission method
- D. Dahl-Jensen, T. H. Jacka and Li Jun: The effect of transverse isotropic ice-fabric on the deformation of ice
- Lijun and T. H. Jacka: Crystal-growth rates in firm and shallow ice at high-accumulation sites
- S. Fujita, H. Maeno, S. Uratsuka, T. Furukawa, S. Mae, Y. Fujii and O. Watanabe: Nature of radio-echo layering in the Antarctic ice sheet detected by two frequencies experiment
- K. Szilder and E. P. Lozowski: Three-dimensional modelling of ice accretion density and morphology using a random-walk model
- Y. Iizuka, H. Satake, R. Naruse, T. Shiraiwa and M. Igarashi: Formation processes of the basal ice at Hamna Icefall, East Antarctica

CLOSING CEREMONIES

- YaoTandong, Deputy Director, Lanzhou Institute of Glaciology and Geocryology, Chinese Academy of Science
- Heinz Miller, Chairman, Scientific Committee on Antarctic Research Working Group on Glaciology