M. References

Clark, T. L., 1977 : A small-scale dynamic model using terrain following coordinate transformation. *J. Comp. Phys.,* **24**, 186-215.

Clark, T. L. and W. D. Hall, 1991 : Multi-domain simulations of the time dependent Navier Stokes equations : error analysis of nesting procedures. *J. Comp. Phys.,* **92**, 456-481.

Deardorff, J. W., 1980 : Stratocumulus-capped mixed layers derived from a three-dimensional model. *Boundary-Layer Meteorol.,* **18**, 495-527.

DWD, 1999 : Quarterly Report of the operational NWP-models of the Deutscher Wetterdienst, Deutscher Wetterdienst, 63 pp.

Doms, G. and U. Schaettler, 1997 : The nonhydrostatic limited-area model LM (Lokal-Modell) of DWD. Part I : Scientific Documentation. *Deutscher Wetterdienst,* 155 pp.

Dudhia, J., 1993 : A nonhydrostatic version of the Penn State-NCAR mesoscale model : Validation tests and simulation of an Atlantic cyclone and cold front. *Mon. Wea. Rev.,* **121**, 1493-1513.

Eito, H., M., Yoshizaki, T., Kato, K., Saito and Y., Mano, 1999 : 3-D Numerical experiments of marine stratocumulus observed around Japan islands in winter. *CAS/JSC WGNE Res. Act. Atmos. Ocea. Model.,* **28**, 5.21-5.22.

Forecast Division/Japan Meteorological Agency, 1995 : Analysis process and accuracy of the estimated amount of rainfall based on radar and AMeDAS observation. *Weather Service Bulletin JMA,* **62**, 279-339 (in Japanese).

Fujibe, F., K. Saito, D. S. Wratt and S. G. Bradley, 1999 : A numerical study on the diurnal variation of low-level wind in the lee of a two-dimensional mountain. *J. Meteor. Soc. Japan,* **77**, 827-843.

Gadd, A. and J. Keers, 1970 : Surface exchanges of sensible heat in a 10-level model atmosphere. *J. Atmos. Sci.,* **96**, 297-308.

Gal-Chen, T. and R. C. J. Somerville, 1975 : On the use of a coordinate transform for the solution of the Navier-Stokes equation. *J. Comp. Phys.,* **17**, 209-228.

Goda, H., 1996 : Users' guide of the Reginal Spectral Model of JMA, *Numerical Prediction Division of JMA* (in Japanese).

Goda, H. and K. Kurihara, 1991 : Development of nonhydrostatic model, *Suuchiyoho-ka Houkokku Bessatsu,* **37**, 67-82 (in Japanese).

Golding, B. W., 1992 : An efficient non-hydrostatic forecast model. *Meteorol. Atmos. Phys.,* 50, 89-103.

Goldman, A. and T. G. Kyle, 1968 : A comparison between statistical model and line calculation with application to the 9.6 μm ozone and the 2.7 μm water vapor bands. *Appl. Opt.,* **7**, 1167-1177.

Goody, R. M., 1952 : A statistical model for water vapor absorption. *Quart. J. Roy. Meteor. Soc.,* **78**, 165-169.

Houghton, J. T., 1977 : The physics of atmospheres. Cambridge Univ. Press. 203 pp.

Hsu, Y. and A. Arakawa, 1990 : Numerical modeling of the atmosphere with an isentropic vertical coordinate. *Mon. Wea. Rev.,* **118**, 1933-1959.

Ikawa, M., 1981 : The energy conserving scheme of invariant form for the shallow convection. *Pap. Met. Geophys.,* **32**, 65-78.

Ikawa, M., 1988 : Comparison of some schemes for nonhydrostatic models with orography. *J. Meteor. Soc. Japan,* **66**, 753-776.

Ikawa M. and K. Saito, 1991 : Description of a non-hydrostatic model developed at the Forecast Research Department of the MRI. *Tec. Rep. MRI,* **28**, 238 pp.

Ikawa M., H. Mizuno, T. Matsuo, M. Murakami, Y. Yamada and K. Saito, 1991 : Numerical modeling of the convective snow cloud over the Sea of Japan. *J. Meteor. Soc. Japan,* **69**, 641-667.

Izumi, K., 1994 : Analysis of the torrential rain over southern Kyushu on 6 August 1993. *Prep. Autumn Conf. MSJ.,* **66**, C358 (in Japanese).

Kato, T., 1995 : Box-Lagrangian rain-drop scheme. *J. Meteor. Soc. Japan,* **73**, 241-245.

Kato, T., 1996 : Hydrostatic and non-hydrostatic simulations of the 6 August 1993 Kagoshima torrential rain. *J. Meteor. Soc. Japan,* **74**, 355-363.

Kato, T., 1998 : Numerical simulation of the band-shaped torrential rain observed southern Kyushu, Japan on 1 August

1993. *J. Meteor. Soc. Japan,* **76**, 97-128.

Kato, T., 1999 : Verification of the MRI-nonhydrostatic-model predicted rainfall during the 1996 BAIU season. Part 2 : Effects of ice-phase and atmospheric radiation. *CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling,* **28**, 4.11-4.12.

Kato, T., 2001 : Tools making a postscript files based on 'GPSL' (to be submitted *Tech. Rep. MRI*).

Kato, T. and K. Saito, 1995 : Hydrostatic and non-hydrostatic simulation of moist convection : Applicability of hydrostatic approximation to a high-resolutionmodel. *J. Meteor. Soc. Japan,* **73**, 59-77.

Kato, T., K. Kurihara, H. Seko, K. Saito and H. Goda, 1998 : Verification of the MRI nonhydrostatic model model predicted rainfall during the 1996 Baiu season. *J. Meteor. Soc. Japan,* **76**, 719-735.

Kikuchi, Y., 1975 : Governing equations, *Suuchiyoho-ka Houkokku Bessatsu,* **21**, 4-17 (in Japanese).

Klemp, J. B. and R. Wilhelmson, 1978 : The simulation of three-dimensional convective storm dynamics. *J. Atmos. Sci.,* 35, 1070-1096.

Kondo, J., 1975 : Air-sea bulk transfer coefficients in diabatic conditions. *Boundary-Layer Meteor.,* 9, 91-112.

Kondo, J., 1976 : Heat balance of the East China Sea during the air mass transformation experiment. *J. Meteor. Soc. Japan,* 54, 382-398.

Kurihara, K. and T. Kato, 1997 : Characteristics of diurnal variation of precipitation around Kyushu Distinct during the Baiu season. *Tenki,* **44**, 631-636 (in Japanese).

Lacis, A. A., and J. E. Hansen, 1974 : A parameterization for the absorption of solar radiation in the earth's atmosphere. *J. Atmos. Sce.,* **31**, 118-133.

Lin, Y. H., R. D. Farley and H. D. Orville, 1983 : Bulk parameterization of the snow field in a cloud model. *J. Clim. Appl. Meteor.,* **22**, 1065-1092.

Liou, K. N., 1992 : Radiation and Cloud Processes in the Atmosphere. *Oxford University Press, New York,* 487 pp.

Manabe, S., J. Smatorinsky, and R. F. Strickler, 1965 : Simulated climatology of a general circulation model with a hydrologic cycle. *Mon. Wea. Rev.,* **93**, 769-798.

Murakami, M., 1990 : Numerical modeling of dynamical and microphysical evolution of an isolated convective cloud — The 19 July 1981 CCOPE cloud. *J. Meteor. Soc. Japan,* **68**, 107-128.

Murata, A., K. Saito, and M. Ueno, 1999 : A numerical simulation of typhoon Flo (1990) using the MRI mesoscale nonhydrostatic model, *Proceedings of Workshop on Mesoscale Numerical Weather Prediction and its Application,* 31-34.

Muroi, C., 1998 : Development of nonhydrostatic model. *Suuchiyoho-ka Houkokku Bessatsu,* **44**, 25-41 (in Japanese).

Muroi, C., 1999a : Development of JMA nonhydrostatic model. *Prep. Spring Conf. MSJ.,* **75**, P 127 (in Japanese).

Muroi, C., 1999b : On the next generation NWP models in JMA. *NWP newsletter,* 18, No. 1, 1-4 (in Japanese).

Muroi, C., K. Saito, T. Kato and H. Eito, 1999 : Development of the MRI/NPD nonhydrostatic model, *Proceedings of Workshop on Mesoscale Numerical Weather Prediction and its Application,* 83-86.

Muroi, C., K. Saito, T. Kato and H. Eito, 2000 : Development of JMA nonhydrostatic mesoscale model and its computational efficiency, *Prep. Spring Conf. MSJ.,* **77**, P 124 (in Japanese).

Nakamura, H., 1978 : Dynamical effects of mountains on the general circulation of the atmosphere : 1. Development of finite-difference schemes suitable for incorporating mountains. *J. Meteor. Soc. Japan,* **56**, 317-339.

Numerical Prediction Division/Japan Meteorological Agency, 1997 : Outline of the operational numerical weather prediction of the Japan Meteorological Agency. 126 pp. [Available from JMA, 1-3-4 Otemachi, Chiyoda-ku, Tokyo 100-8122, Japan.]

Ogura, M. 1969 : A direct method of Poisson equation by Dimension Reduction Method, *J. Meteor. Soc. Japan,* **47**, 319-323.

Ohno, H. and M. Isa, 1984 : A statistical relation between GMS-viewed cloud amount and relative humidity. *Tenki,* 31, 493-495 (in Japanese).

Orlanski, I., 1976 : A simple boundary condition for unbounded hyperbolic flows. *J. Comp. Phys.,* **21**, 251-269.

Pielke, R. A., W. R. Cotton, R. L. Walko, C. J. Tremback, W. A. Lyons, L. D. Grasso, M. E. Nicholls, M. D. Moran, D. A. Wesley, T. J. Lee, and J. H. Copeland, 1992 : A comprehensive meteorological modeling system -RAMS. *Meteor. Atmos. Phys.,* **49**, 69-91.

Redelsperger, J. L., P. Brown, F. Guichard, C. Hoff, M. Kawasima, S. Lang, T. Montmerle, K. Nakamura, K. Saito, C. Seman, and W. K. Tao, 2000 : A GCSS model intercomparison for a tropical squall line observed during TOGA-COARE. Part 1 : Cloud-Resolving Models. *Q. J. R. Met. Soc.*, **126**, 823-863.

Robert, A. J., 1966 : The integration of low order spectral form of the primitive meteorological equations. *J. Atmos. Sci.*, **44**, 237-245.

Roberts, R. E., J. A. Selby and L. M. Bibermann, 1976 : Infrared continuum absorption by atmospheric water vapor in the 8-12 μm window. *Appl. Opt.*, **15**, 2085-2090.

Rodgers, C. D. and C. D. Walshaw, 1966 : The computation of infrared cooling rate in planetary atmospheres. *Quart. J. Roy. Meteor. Soc.*, **92**, 67-92.

Saito, K., 1993 : A numerical study of the local downslope wind "Yamaji-kaze" in Japan Part 2 : Non-linear aspect of the 3-D flow over a mountain range with a col. *J. Meteor. Soc. Japan*, **71**, 247-271.

Saito, K., 1994a : A numerical study of the local downslope wind "Yamaji-kaze" in Japan Part 3 : Numerical simulation of the 27 September 1991 windstorm with a non-hydrostatic multi-nested model. *J. Meteor. Soc. Japan*, **72**, 301-329.

Saito, K., 1994b : On the MRI nonhydrostatic nesting model. (2) Modification to a fully compressible model. *Technical Report submitted to the annual meeting of the JMA for improvement of forecasting technique, MRI, Forecast Research Department.* 1-17 (in Japanese).

Saito, K., 1996 : On the MRI mesoscale nonhydrostatic model (2) —nesting with RSM—. *Prep. Spring Conf. MSJ.*, **70**, B213 (in Japanese).

Saito, K., 1997 : Semi-implicit fully compressible version of the MRI mesoscale nonhydrostatic model—Forecast experiment of the 6 August 1993 Kagoshima torrential rain—. *Geophys. Mag. Ser. 2*, **2**, 109-137.

Saito, K., 1998 : Recent modification of the MRI-NHM—Higher order advection schemes and adjustment of mass-flux through lateral boundaries according to the precipitation rates—. *CAS/JSC WGNE Res. Act. Atmos. Ocea. Model.*, **27**, 5.44-5.45.

Saito, K., 2000 : Modification of the MRI nonhydrostatic model—arbitrary conformal projection mapping and nesting with the global analysis data—. *CAS/JSC WGNE Res. Act. Atmos. Ocea. Model.*, **29**, 5.35-5.36.

Saito, K., 2001 : Development of a global nonhydrostatic model. *Tenki*, **48**, 103-104 (in Japanese).

Saito, K. and A. Baba, 1988 : A statistical relation between relative humidity and the GMS observed cloud amount, *J. Meteor. Soc. Japan*, **66**, 187-192.

Saito, K. and M. Ikawa, 1991 : A numerical study of the local downslope wind "Yamaji-kaze" in Japan. *J. Meteor. Soc. Japan*, **69**, 31-56.

Saito, K. and M. Ikawa, 1992 : Numerical simulation of local wind by a nonhydrostatic nested model. *Tenki*, **39**, 615-625 (in Japanese).

Saito, K., L. Thanh and T. Takeda, 1994 : Airflow over the Kii Peninsula and its Takeda, 1994 relation to the orographic enhancement of rainfall. *Pap. Met. Geophys.*, **45**, 65-90.

Saito, K., M. Murakami, T. Matsuo and H. Mizuno, 1996 : Sensitivity experiments on the orographic snowfall over the mountainous region of northern Japan. *J. Meteor. Soc. Japan*, **74**, 793-813.

Saito K. and T. Kato, 1996 : On the modification of the MRI nonhydrostatic nesting model. *Tenki*, **43**, 101-114 (in Japanese).

Saito, K. and M. Yamasaki, 1997 : GEWEX Cloud System Studies model intercomparions on a squall line of TOGA-COARE. *CAS/JSC WGNE Res. Act. Atmos. Ocea. Model.*, **25**, 5.31-5.32.

Saito, K., G. Doms, U. Schaettler and J. Steppeler, 1998 : 3-D mountain waves by the Lokal-Modell of DWD and the MRI mesoscale nonhydrostatic model. *Pap. Met. Geophys.*, **49**, 7-19.

Saito K. and T. Kato, 1999 : The MRI mesoscale nonhydrostatic model. *Met. Res. Note*, **196**, 169-195 (in Japanese).

Saito, K., T. Kato, H. Eito, C. Muroi, K. Gopal, Y. Yamagishi and T. Yonemura, 1999 : On the parallelization of the MRI nonhydrostatic model. *Prep. Spring Conf. MSJ.*, **76**, B306 (in Japanese).

Saito, K., T. Kato, H. Eito, C. Muroi, K. Gopal and Y. Yamagishi, 2000 : Parallelization of a cloud resolving nonhydrostatic model (2). *Prep. Spring Conf. MSJ.*, **77**, B305 (in Japanese).

Saito, K., T. Keenan, G. Holland and K. Puri, 2001a : Numerical simulation of tropical diurnal thunderstorms over the Maritime Continent. *Mon. Wea. Rev.*, **129**, 378-400.

Saito, K., T. Kato, H. Eito and C. Muroi, 2001b : Cloud resolving simulation over (2000 km)^2 with a parallel nonhydrostatic model. *CAS/JSC WGNE Res. Act. Atmos. Ocea. Model. (submitted)*

Sakurai, H. and S. Hosoyamada, 1994 : Actual condition of the Kagoshima torrential rain. *Rep. Kagoshima University research group,* 1-12 (in Japanese).

Segami, A., K. Kurihara, H. Nakamura, M. Ueno and I. Takano, 1989 : Description of Japan Spectral Model. *JMA/NPD Technical Report,* **25**, 41 pp.

Seino, N. and K., Saito, 1999 : A numerical study of the local front in the Kanto Region, Japan. *CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling,* **28**, 5.50-5.51.

Seko, H., T. Kato, K. Saito, M. Yoshizaki, K. Kusunoki and H. Okamura, 1997 : Analytical and numerical studies of a quasi-stationary precipitation band observed over Kanto area associated with Typhoon 9426 (Orchid). *J. Meteor. Soc. Japan,* **77**, 929-928.

Sherman, C. A., 1978 : A mass-consistent model for wind fields over complex terrain. *J. Appli. Meteor.,* **17**, 312-319.

Smolarkiewicz P., 1983 : A simple positive definite advection scheme with small implicit diffusion. *Mon. Wea. Rev.,* **111**, 479-486.

Smith, R. B., 1980 : Linear theory of stratified hydrostatic flow past an isolated mountain. *Tellus,* **32**, 348-364.

Sommeria, G., 1976 : Three-dimensional simulation of turbulent processes in an undisturbed trade wind boundary layer. *J. Atmos. Sci.,* **33**, 216-241.

Stephens, G. L., 1978 : Radiation profiles in extended water clouds. II. Parameterization schemes. *J. Atmos. Sci.,* **35**, 2123 -2132.

Sugi, M., K. Kuma, K. Tada, K. Tamiya, N. Hasegawa, T. Iwasaki, S. Yamada and T. Kitade, 1990 : Description and performance of the JMA operational global spectral model (JMA-GSM88). *Geophys. Mag.,* **43**, 105-130.

Tapp, M. C. and P. W. White, 1976 : A non-hydrostatic mesoscale model. *Q. J. R. Meteorol. Soc.,* **102**, 277-296.

Thomas, S., C. Girard, G. Doms and U. Schaettler, 1999 : Semi-implicit scheme for the DWD Lokal-Modell. *Met. Atmos. Phys.* (to be submitted).

Tanguay, M. A., A. Robert and R. Laprise, 1990 : A semi-implicit semi-Lagrangian fully compressible regional forecast model. *Mon. Wea. Rev.,* **118**, 1970-1980.

Yamamoto, A. and T. Satomura, 1994 : An introduction of a radiation scheme in non-hydrostatic model. *Prep. Spring Conf. MSJ.,* **65**, A103 (in Japanese).

Yamasaki, M., 1977: A preliminary experiment of the tropical cyclone without parameterizing the effects of cumulus convection. *J. Meteor. Soc. Japan,* **55**, 11-31.

Yoshizaki, M., T. Kato, Y. Tanaka, H. Takayama, S. Shoji, H. Seko, K. Arao and K. Manabe, 2000 : Analytical and numerical study of the 26 June 1998 orographic rainband observed in the western Kyusyu, Japan. *J. Meteor. Soc. Japan,* **77**, 835-856.

気象研究所技術報告一覧表

第１号　バックグラウンド大気汚染の測定法の開発（地球規模大気汚染特別研究班，1978）
Development of Monitoring Techniques for Global Background Air Pollution. (MRI Special Research Group on Global Atmospheric Pollution, 1978)

第２号　主要活火山の地殻変動並びに地熱状態の調査研究（地震火山研究部，1979）
Investigation of Ground Movement and Geothermal State of Main Active Volcanoes in Japan. (Seismology and volcanology Research division, 1979)

第３号　筑波研究学園都市に新設された気象観測用鉄塔施設（花房龍男・藤谷徳之助・伴野　登・魚津　博，1979）
On the Meteorological Tower and Its Observational System at Tsukuba Science City. (T. Hanafusa, T. Fujitani, N. Banno, and H. Uozu, 1979)

第４号　海底地震常時観測システムの開発（地震癌研究部，1980）
Permanent Ocean － Bottom Seismograph Observation System. (Seismology and Volcanology Research Dvision, 1980)

第５号　本州南方海域水温図―400m（又は500m）深と1,000m深―（1934―1943年及び1954―1980年）（海洋研究部，1981）
Horizontal Distribution of Temperature in 400m (or 500m) and 1,000m Depth in Sea South of Honshu, Japan and Western － North Pacific Ocean from 1934 to 1943 and from 1954 to 1980. (Oceanographical Research Division, 1981)

第６号　成層圏オゾンの破壊につながる大気成分及び紫外日射の観測（高層物理研究部，1982）
Observations of the Atmospheric Constituents Related to the Stratospheric ozon Depletion and the Ultraviolet Radiation. (Upper Atmosphere Physics Research Division, 1982)

第７号　83型強震計の開発（地震火山研究部，1983）
Strong － Motion Seismograph Model 83 for the Japan Meteorological Agency Network. (Seismology and Volcanology Research Division, 1983)

第８号　大気中における雪片の融解現象に関する研究（物理気象研究部，1984）
The Study of Melting of Snowflakes in the Atmosphere. (Physical Meterology Research Division, 1984)

第９号　御前崎南方沖における海底水圧観測（地震火山研究部・海洋研究部，1984）
Bottom Pressure Observation South off Omaezaki, Central Honsyu. (Seismology and Volcanology Research Division and Oceanographical Research Division, 1984)

第10号　日本付近の低気圧の統計（予報研究部，1984）
Statistics on Cyclones around Japan. (Forecast Research Division, 1984)

第11号　局地風と大気汚染質の輸送に関する研究（応用気象研究部，1984）
Observations and Numerical Experiments on Local circulation and Medium － Range Transport of Air Pollutions. (Applied Meteorology Research Division, 1984)

第12号　火山活動監視手法に関する研究（地震火山研究部，1984）
Investigation on the Techniques for Volcanic Activity Surveillance. (Seismology and volcanology Research Division, 1984)

第13号　気象研究所大気大循環モデルーⅠ（MRI・GCM―I）（予報研究部，1984）

A Description of the MRI Atmospheric General circulation Model (The MRI・GCM－I). (Forecast Research Division, 1984)

第14号　台風の構造の変化と移動に関する研究―台風7916の一生―（台風研究部，1985）

A Study on the Changes of the Three - Dimensional Structure and the Movement Speed of the Typhoon through its Life Time. (Typhoon Research Division, 1985)

第15号　波浪推算モデルMRIとMRI－IIの相互比較研究―計算結果図集―（海洋気象研究部，1985）

An Intercamparion Study between the Wave Models MRI and MRI－II － A Compilation of Results －. (Oceanographical Research Division, 1985)

第16号　地震予知に関する実験的及び理論的研究（地震火山研究部，1985）

Study on Earthquake Prediction by Geophysical Method. (Seismology and Volcanology Research Division, 1985)

第17号　北半球地上月平均気温偏差図（予報研究部，1986）

Maps of Monthly Mean Surface Temperature Anomalies over the Northern Hemisphere for 1981－1981. (Forecast Research Division, 1986)

第18号　中層大気の研究（高層物理研究部・気象衛星研究部・予報研究部・地磁気観測所，1986）

Studies of the Middle Atmosphere. (Upper Atmosphere Physics Research Division, Meteorological Satellite Research Division, Forecast Research Division, MRI and the Magnetic Observatory, 1986)

第19号　ドップラーレーダーによる気象・海象の研究（気象衛星研究部・台風研究部・予報研究部・応用気象研究部・海洋研究部,1986）

Studies on Meteorological and Sea Surface Phenomena by Doppler Radear. (Meteorological Satellite Research Division, Typhoon Research Division, Forecast Research Division, Applied Meteorology Research Division and Oceanographical Research Dvision, 1986)

第20号　気象研究所対流圏大気大循環モデル（MRI・GCM－Ⅰ）による12年間分の積分（予報研究部，1986）

Mean Statistics of the Tropospheric MRI・GCM－I based on 12－year Integration. (Forecast Research Division, 1986)

第21号　宇宙線中間子強度1983－1986（高層物理研究部，1987）

Multi － Directional Cosmic Ray Meson Intensity 1983－1986. (Upper Atmosphere Physics Research Divison, 1987)

第22号　静止気象衛星「ひまわり」画像の噴火噴煙データに基づく噴火活動の解析に関する研究（地震火山研究部，1987）

Study on Analysis of Volcanic Eruptions based on Eruption Cloud Image Data obtained by thd Geostationary Meteorological satellite 'GMS). (Seismology and Volcanology Research Division, 1987)

第23号　オホーツク海海洋気候図（篠原吉雄・四竈信行，1988）

Marine Climatological Atlas of the sea of Okhotsk. (Y. Shinohara and N. Shikama, 1988)

第24号　海洋大循環モデルを用いた風の応力異常に対する太平洋の応答実験（海洋研究部，1989）

Response Experiment of Pacific Ocean to Anomalous Wind Stress with Ocean General Circulation Model. (Oceanographical Research Division, 1989)

第25号　太平洋における海洋諸要素の季節平均分布（海洋研究部，1989）

Seasonal Mean distribution of Sea Properties in the Pacific. (Oceanographical Research Division, 1989)

第26号　地震前兆現象のデータベース（地震火山研究部，1990）

Database of Earchquake Precursors. (Seismology and Volcanology Research Division, 1990)

第27号　沖縄地方における梅雨期の降水システムの特性（台風研究部，1991）

Characteristics of Precipitation Systems During the Baiu Season in the Okinawa Area. (Typhoon Research Dvision, 1991)

第28号　気象研究所・予報研究部で開発された非静水圧モデル（猪川元興・斉藤和雄，1991）

Description of a Nonhydrostatic Model Developed at the Forecast Research Department of the MRI. (M. Ikawa and K. Saito, 1991)

第29号　雲の放射過程に関する総合的研究（気候研究部・物理気象研究部・応用気象研究部・気象衛星・観測システム研究部・台風研究部，1992）

A Synthetic Study on Cloud－Radiation Processes. (Climate Research Department, Physical Meteorology Research Department, Applied Meteorology Research Department, Meteorological Satellite and Observation system Research Department, and Typhoon Research Department, 1992)

第30号　大気と海洋・地表とのエネルギー交換過程に関する研究（三上正男・遠藤昌宏・新野　宏・山崎孝字，1992）

Studies of Energy Exchange Processes between the Ocean－Ground Surface and Atmosphere. (M. Mikami, M. Endoh, H. Niino, and K. Yamazaki, 1992)

第31号　降水日の出現頻度からみた日本の季節推移―30年間の日降水量資料に基づく統計―（秋山孝子，1993）

Seasonal Transition in Japan, as Revealed by Appearance Frequency of Precipitating-Days.－Statistics of Daily Precipitation Data During 30 Years－(T. Akiyama, 1993)

第32号　直下型地震予知に関する観測的研究（地震火山研究部，1994）

Observational Study on the Predictiona of Disastrous Intraplate Earthquakes. (Seismology and Volcanology Research Department, 1994)

第33号　各種気象観測機器による比較観測（気象衛星・観測システム研究部，1994）

Intercomparisons of Meteorological Observation Instruments. (Meteorological Satellite and Observation System Research Department, 1994)

第34号　硫黄酸化物の長距離輸送モデルと東アジア地域への適用（応用気象研究部，1995）

The Long－Range Transport Model of Sulfur Oxides and Its Application to the East Asian Region. (Applied Meteorology Research Department, 1995)

第35号　ウインドプロファイラーによる気象の観測法の研究（気象衛星・観測システム研究部，1995）

Studies on Wind Profiler Techniques for the Measurements of Winds. (Meteorological Satellite and Observation System Research Department, 1995)

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