

10 研究成果報告

使用された天文台装置の略号

P: 65 cm 屈折望遠鏡, D: ドームレス太陽望遠鏡, K: 花山画像解析システム,
F: フレア監視望遠鏡, O: その他.

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10.1 出版

- (1) **DK** Kurokawa, H.¹, Wang, T.J.¹, & Ishii, T.T.¹
Emergence and Drastic Break-Down of a Twisted Flux Rope to Trigger Strong Solar Flares in the Active Region NOAA 9026, 2002, ApJ, 572, 598
- (2) **DK** Ishii, T. T.¹, Kurokawa, H.¹, & Takeuchi, T.T.¹⁶
Twisted Magnetic Flux Bundles as an Energy Source for Major Solar Flares: I. Observational model construction, 2002, in Sunspots & Starspots, 119
- (3) **KO** Wang, T.¹, Yan, Y.³¹, Wang, J.³¹, Kurokawa, H.¹ & Shibata, K.¹
The Large-Scale Coronal field Dstructure and Source Region Features for a Halo Coronal mass Ejection, 2002, ApJ, 572, 580
- (4) **O** Shimojo, M.¹⁸, Kurokawa, H.¹, & Yoshimura, K.³
Dynamical Features and Evolutional Characteristics of Brightening Coronal Loops, 2002, Solar Phys., 206, 133
- (5) **DK** Kurokawa, H.¹, Ishii, T.T.¹, Wang, T.J.³⁵, & Shine, R.³⁴
Pre-flare Heating Around the Temperature Minimum Region Found Right Prior to an X-class Flare, 2002, in Proc. of the COSPAR Colloquia Series 13, Multi-Wavelength Observations of Coronal Structure and Dynamics – Yohkoh 10th Anniversary Meeting, 257
- (6) **KO** Yoshimura, K.³, Kurokawa, H.¹, Shimojo, M.¹⁸, & Shine, R.³⁴
Close Correlation among H α Surges, Magnetic Flux Cancellations, and UV Brightenings Found at the Edge of an Emerging Flux Region, 2002, PASJ, 515, 313

- (7) **DK** Kamio, S.¹, Kurokawa, H.¹ & Ishii, T.T.¹
 Precise Determination of Cooling Times of Post-Flare Loops from the Detailed Comparison between H α and soft X-ray Images, 2002, Solar Phys., submitted.
- (8) **KO** Brooks, D.H.¹, Kurokawa, H.¹, Yoshimura, K.³, Kozu, H.¹, & Berger, T.E.³⁴
 A study of the causal relationship between the emergence of a twisted magnetic flux rope and a small H α two-ribbon flare, 2002 A&A, submitted.
- (9) **FK** Morimoto, T.¹, & Kurokawa, H.¹
 A new Method for the Determination of 3-D Velocity Fields of Disappearing Solar Filaments, 2002, PASJ, submitted
- (10) **K** Takeuchi, T.T.¹⁶, Shibai, H.²⁶, & Ishii, T.T.¹
 Simulations of the Infrared Galaxy Number Count and Cosmic Infrared Background, 2002, Adv. in Space Res., 30, 2021
- (11) **K** Ishii, T.T.¹, Takeuchi, T. T.¹⁶, & Sohn, J.-J.⁴³
 Infrared Number Count Model and Estimated Source Confusion Limits, 2002, in Infrared and Submillimeter Space Astronomy: An International Colloquium to Honor the Memory of Guy Serra, 369
- (12) **KO** Takeuchi, T. T.¹⁶, Ishii, T. T.¹, & Totani, T.¹⁶
 Statistical Studies on Galaxy Evolution from IR Observations, 2002, in Infrared and Submillimeter Space Astronomy: An International Colloquium to Honor the Memory of Guy Serra, 375
- (13) **DK** Takeuchi, T.T.¹⁶, Ishii, T. T.¹, & Kurokawa, H.¹
 Twisted Magnetic Flux Bundles as an Energy Source for Major Solar Flares: II. Interpretation, 2002, in Sunspots & Starspots, 121
- (14) **KO** Takeuchi, T. T.¹⁶, Hirashita, H.²⁸, Ishii, T. T.¹, Hunt, L. K.²⁸, & Ferrara, A.²⁸
 Far-Infrared SED Model of Extremely Young Low Metallicity Galaxies, 2002, in Proc. of the 8th IAU Asian Pacific Regional Meeting, vol.II, 297
- (15) **DK** Ishii, T. T.¹, Kurokawa, H.¹, & Takeuchi, T. T.¹⁶
 Vortex-like Sunspot Proper Motions in Flare-productive Active Regions, 2002, in Proc. of the 8th IAU Asian Pacific Regional Meeting, vol. II, 431
- (16) **KO** Asai, A.¹, Masuda, S.²⁵, Yokoyama, T.¹⁸, Shimojo, M.¹⁸, Isobe, H.¹, Kurokawa, H.¹, and Shibata, K.¹
 Difference between Spatial Distribution of the H α Kernels and Hard X-ray Sources in a Solar Flare, 2002, ApJL, 578, L91
- (17) **KO** Asai, A.¹, Masuda, S.²⁵, Yokoyama, T.¹⁸, Shimojo, M.¹⁸, Kurokawa, H.¹, Ishii, T.T.¹, Shibata, K.¹
 Evolution of Flare Ribbons and Energy Release, 2002, in The 34th COSPAR Scientific Assembly, E2.3-0040-02, in press
- (18) **KO** Asai, A.¹, Masuda, S.²⁵, Yokoyama, T.¹⁸, Shimojo, M.¹⁸, Ishii, T.T.¹, Isobe, H.¹, Shibata, K.¹, Kurokawa, H.¹
 Evolution of Flare Ribbons and Energy Release, 2002, in Proc. of the 8th IAU Asian Pacific Regional Meeting, Vol.II, 415

- (19) **KO** A. Asai¹, S. Masuda²⁵, T. Yokoyama¹⁸, M. Shimojo¹⁸, H. Kurokawa¹, K. Shibata¹, T.T. Ishii¹, R. Kitai¹, H. Isobe¹, and K. Yaji⁷
 Fine Structure inside Flare Ribbons and its Temporal Evolution, 2002, in Proc. of the COSPAR Colloquia Series 13, Multi-Wavelength Observations of Coronal Structure and Dynamics – Yohkoh 10th Anniversary Meeting, 221
- (20) **O** Kato, T.¹¹, Baba, H.³, Nogami, D.¹
 IR Com: Deeply Eclipsing Dwarf Nova Below the Period Gap – A Twin of HT Cas? 2002, PASJ, 54, 79
- (21) **O** Baba, H.³ et al. with Nogami, D.¹
 Spiral Structure in WZ Sagittae around the 2001 Outburst Maximum, 2002, PASJ, 54, L7
- (22) **O** Uemura, M.¹¹ et al. with Nogami, D.¹
 Optical Observations of XTE J1118 + 480 during the 2000 Outburst, 2002, PASJ, 54, 285
- (23) **O** Kato, T.¹¹, Nogami, D.¹, Masuda, S.¹⁷
 Extended Deep Minimum and Subsequent Brightening of RX And in 1996-1997, 2002, PASJ, 54, 575
- (24) **O** Nogami, D.¹, Kato, T.¹¹, Baba, H.³
 Time-Resolved Photometry of GK Persei during the 1996 Outburst, 2002, PASJ, 54, 987
- (25) **O** Nogami, D.¹, Baba, H.³, Matsumoto, K.⁶, Kato, T.¹¹
 The SU UMa Nature of the Dwarf Nova, DM Lyrae, 2002, PASJ, in press
- (26) **O** Nogami, D.¹, Gaensicke, B.T.³², Beuermann, K.³²
 HST/STIS observations of the polar UZ Fornacis in a high state, 2002, ASP Conference Series, 261, 159
- (27) **O** Gaensicke, B.T.³² et al. with Nogami, D.¹
 HS 0455+8315: A new eclipsing novalike variable, 2002, ASP Conference Series, 261, 623
- (28) **KO** Isobe, H.¹, Shibata, K.¹, and Machida, S.¹²
 "Dawn-Dusk Asymmetry" in Solar Coronal Arcade Formations, 2002, GRL, 29, 21, 2014
- (29) **KO** Isobe, H.¹, Yokoyama, T.¹⁸, Shimojo, M.¹⁸, Morimoto, T.¹, Kozu, H.¹, Eto, S.¹, Narukage, N.¹, and Shibata, K.¹
 Reconnection Rate in the Decay Phase of a Long Duration Event Flare on 1997 May 12, 2002, ApJ, 556, 528
- (30) **KO** Isobe, H.¹, Morimoto, T.¹, Eto, S.¹, Narukage, N.¹, and Shibata, K.¹
 Statistical Study of the Reconnection Rate in Solar Flares, 2002, in Proc. of the COSPAR Colloquia Series 13, Multi-Wavelength Observations of Coronal Structure and Dynamics – Yohkoh 10th Anniversary Meeting, 171
- (31) **KO** Isobe, H.¹, Shibata, K.¹, Yokoyama, T.¹⁸, and Imanishi, K.¹³
 Hydrodynamic Modeling of a Protostellar Flare Loop Connecting a Central Star with its Accretion Disk, 2002, in Proc. of the IAU 8th Asian-Pacific Regional Meeting, Vol. II, 433

- (32) **FK** N. Narukage¹, H. S. Hudson³, T. Morimoto¹, S. Akiyama¹, R. Kitai¹, H. Kurokawa¹, and K. Shibata¹
 Simultaneous Observation of a Moreton Wave on 1997 November 3 in H α and Soft X-Rays, 2002, ApJL, 572, L109
- (33) **FK** Narukage, N.¹, Shibata, K.¹, Hudson, H.³, Eto, S.¹, Isobe, H.¹, Asai, A.¹, Morimoto, T.¹, Kozu, H.¹, Ishii, T.¹, Akiyama, S.¹, Kitai, R.¹, Kurokawa, H.¹
 Simultaneous observation of a Moreton wave on Nov 3, 1997 in H-alpha and Soft X-ray, 2002, in Proc. of the COSPAR Colloquia Series 13, Multi-Wavelength Observations of Coronal Structure and Dynamics – Yokoh 10th Anniversary Meeting, 171
- (34) **FK** Narukage N.¹, Morimoto T.¹, Kitai R.¹, Kurokawa H.¹, and Shibata K.¹
 Multi-wavelength observations of Moreton waves on 2000 March 3, 2002, in Proc. of the IAU 8th Asian-Pacific Regional Meeting, Vol. II, 449
- (35) **FK** N. Narukage¹, H. Hudson³, T. Morimoto¹, R. Kitai¹, H. Kurokawa¹, K. Shibata¹
 Simultaneous Observations of Moreton Waves in H α and Soft X-ray, 2002, in The 34th COSPAR Scientific Assembly, E2.3-0040-02, in press The 34th Scientific Assembly of COSPAR / World Space Congress 2002
- (36) **O** Kato, S. X.⁴, Kudoh, T.⁴⁴, and Shibata, K.¹,
 2.5D Nonsteady MHD Simulations of Magnetically Driven Jets from Geometrically Thin Disk, 2002, ApJ, 565, 1035
- (37) **O** Kudoh, T.⁴⁴, Matsumoto, R.²⁰, and Shibata, K.¹,
 Effect of Magneto-rotational Instability on Jets from Accretion Disks, 2002, PASJ, 54, 121
- (38) **O** Kudoh, T.⁴⁴, Matsumoto, R.²⁰, and Shibata, K.¹,
 Are Jets ejected from locally magnetized accretion disks ? 2002, PASJ, 54, 267
- (39) **FK** Eto, S.¹, Isobe, H.¹, Narukage, N.¹, Morimoto, T.¹, Thompson, B.³⁹, Yashiro, S.³⁹, Asai, A.¹, Wang, T.¹, Kitai, R.¹, Kurokawa, H.¹, and Shibata, K.¹,
 Relation between Moreton Wave and EIT Wave Observed on November 4, 1997, 2002, PASJ, 54
- (40) **O** Koide, S.²⁴, Shibata, K.¹, Kudoh, T.⁴⁴, Meier, D. L.³³,
 Extraction of Black Hole Rotational Energy by a Magnetic Field and the Formation of Relativistic Jets, 2002, Science, 295, 1688
- (41) **O** Liu, B. F.¹⁰, Mineshige, S.¹⁰, and Shibata, K.¹,
 A Simple Model for Magnetic Reconnection Heated Corona, 2002, ApJL, 572, L173
- (42) **KO** Chen, P. F.¹, Wu, S. T.³⁸, Shibata, K.¹, and Fang, C.³⁸
 Evidence of EIT and Moreton Waves in Numerical Simulations, 2002, ApJL, 572, L99
- (43) **O** Shibata, K.¹ and Yokoyama, T.¹⁸,
 A Hertzsprung-Russell-like Diagram for Solar/Stellar Flares and Corona – Emission Measure versus Temperature Diagram, 2002, ApJ, 577, 422

- (44) **KO** Yamamoto, T.²³, Shiota, T.¹, Sakajiri, N.¹, Akiyama, S.¹, Isobe, H.¹, and Shibata, K.¹
 Analysis of Temperature and Emission Measure of Solar Coronal Arcades, and Test of a Scaling Law of Flare/Arcade Loop Length, 2002, *ApJL*, 579, L45
- (45) **O** Nishikawa, K. I.⁴², et al. with Shibata, K.¹
 3-D General Relativistic MHD Simulations of Generating Jets Active Galactic Nuclei: from Central Engine to Host Galaxy Abstract Book, meeting held in Meudon, France, July 23-27, 2002, Eds.: S. Collin, F. Combes and I. Shlosman. ASP Conference Series, 44
- (46) **O** Nishikawa, K.-I.⁴², Koide, S.²⁴, Shibata, K.¹, Kudoh, T.⁴⁴, Sol, H.³⁰
 3-D GRMHD simulations of generating jets, New Views on MICROQUASARS, the Fourth Microquasars Workshop, Institut d'Etudes Scientifiques de Cargese, Corsica, France, May 27 - June 1, 2002. Edited by Ph. Durouchoux, Y. Fuchs, and J. Rodriguez. Published by the Center for Space Physics: Kolkata (India), 101
- (47) **O** Koide, S.²⁴, Shibata, K.¹, Kudoh, T.⁴⁴, Meier, D. L.³³
 Simulation of Jet Formation from Magnetized Accretion Disk Around Kerr Black Hole, 2002, Lighthouses of the Universe: The Most Luminous Celestial Objects and Their Use for Cosmology Proceedings of the MPA/ESO/, 456
- (48) **O** Koide, S.²⁴, Meier, D. L.³³, Shibata, K.¹, Kudoh, T.⁴⁴
 General Relativistic Simulation of Jet Formation by a Rapidly-Rotating Black Hole Authors, 2002, Mass Outflow in Active Galactic Nuclei: New Perspectives, ASP Conference Proceedings, 255, 251
- (49) **O** Saito, Takao, Watanabe, Ta.², Shibata, K.¹
 The heliosphere in rising phase and the triple-dipole model, 2002, *Adv. in Space Res.*, 29, 10, 1533
- (50) **KO** Chen, P. F.¹, Fang, C.³⁸, Shibata, K.¹, Tang, Y. H.³⁸
 Coronal mass ejections and emerging flux 2002, *Adv. in Space Res.*, 30, 3, 535
- (51) **O** Nitta, S.¹⁹, Tanuma, S.¹, & Maezawa, K.³
 Self-Similar Solution of Fast Magnetic Reconnection: Semi-Analytic Study of Inflow Region, 2002, *ApJ*, 580, 538
- (52) **KO** Tanuma, S.¹, & Shibata, K.¹
 Rayleigh-Taylor Instability Induced by the Collision between the Magnetic Reconnection Jet and Magnetic Loop, 2002, in *Proc. of 8th IAU Asia-Pacific Regional Meeting*, vol. II, 469
- (53) **KO** Tanuma, S.¹, Yokoyama, T.¹⁸, Kudoh, T.⁴⁴, & Shibata, K.¹
 3D Structure of A Magnetic Reconnection Jet: Application to Looptop Hard X-Ray Emission 2002, in *Proc. of the COSPAR Colloquia Series 13, Multi-Wavelength Observations of Coronal Structure and Dynamics – Yokohoh 10th Anniversary Meeting*, 177
- (54) **O** Brooks, D.H.¹, Costa, V.M.⁴¹
 Spectroscopic diagnostics of UV power and accretion in T Tauri stars. 2003, *MNRAS*, In press.

- (55) O Lanzafame, A.C.³⁰, et al. with Brooks, D.H.¹
 ADAS analysis of the differential emission measure structure of the inner solar corona: Application of the data adaptive smoothing approach to the SERTS-89 active region spectrum, 2002, A&A, 384, 242
- (56) KO Foley, C.R.³⁷, et al. with Kitai, R.¹
 Evidence for a flux rope driven EUV wave and CME : Comparison with the piston shock model, 2002, A&A, in press.
- (57) O 柴田一成¹
 太陽フレアとコロナはどこまで解明されたか? — 太陽観測衛星「ようこう」10年の成果—, パリティ(丸善), 2002年9月号, pp32-41
- (58) O 柴田一成¹
 内田豊先生追悼文, 天文月報 vol. 95, 2002年11月号, pp550 - 553

10.2 研究会報告

太陽研究会 (相模原) 1月9日

- (1) 柴田一成¹
 今後の太陽研究は何がおもしろいか?

応用物理学会北海道支部講演会 (札幌) 1月11-12日

- (2) 北洋²⁷、馬場直志²⁷、三浦則明⁸、小玉直樹⁸、北井礼三郎¹、上野悟¹
 波面センシングに基づいた太陽像回復

Multi-Wavelength Observations of Coronal Structure and Dynamics – Yokohoh 10th Anniversary Meeting (ハワイ) 1月

- (3) A. Asai¹, S. Masuda²⁵, T. Yokoyama¹⁸, M. Shimojo¹⁸, H. Kurokawa¹, K. Shibata¹, T.T. Ishii¹, R. Kitai¹, H. Isobe¹, and K. Yaji⁷
 Fine Structure inside Flare Ribbons and its Temporal Evolution
- (4) Isobe, H.¹, Morimoto, T.¹, Eto, S.¹, Narukage, N.¹, and Shibata, K.¹
 Statistical Study of the Reconnection Rate in Solar Flares
- (5) Narukage, N.¹, Shibata, K.¹, Hudson, H.³, Eto, S.¹, Isobe, H.¹, Asai, A.¹, Morimoto, T.¹, Kozu, H.¹, Ishii, T.¹, Akiyama, S.¹, Kitai, R.¹, Kurokawa, H.¹
 Simultaneous observation of a Moreton wave on Nov 3, 1997 in H-alpha and Soft X-ray
- (6) Tanuma, S.¹, Yokoyama, T.¹⁸, Kudoh, T.⁴⁴, & Shibata, K.¹
 3D Structure of A Magnetic Reconnection Jet: Application to Looptop Hard X-Ray Emission
- (7) Shibata, K.¹ et al.,
 Observations of Moreton Waves and EIT Waves