

# I Scientific Highlights

(April 2013 – March 2014)

01	Magnetic Diffusion and Ion Nonlinear Dynamics in Magnetic Reconnection	Zenitani, S., et al.	<b>003</b>
02	Radiative Transfer Simulations of Neutron Star Mergers: Toward Multi-Messenger Astronomy	Tanaka, M., et al.	<b>004</b>
03	Unusual Migration of the Prominence Activities in the Southern Hemisphere during Cycle 23–24	Shimojo, M.	<b>005</b>
04	Subaru High-Spatial-Resolution Infrared Imaging of Gas-Rich Merging Galaxies	Imanishi, M., Saito, Y.	<b>006</b>
05	ALMA Observations of Luminous Infrared Galaxies Using Dense Gas Tracers	Imanishi, M., Nakanishi, K.	<b>007</b>
06	Looking into the Sky of a Super-Earth	Narita, N., et al.	<b>008</b>
07	High Ecliptic Latitude Survey for Small Main-belt Asteroids	Terai, T., et al.	<b>009</b>
08	High-Precision Measurements of the Brightness Variation of Nereid	Terai, T., Itoh, Y.	<b>010</b>
09	Time-series Photometry of Earth Flyby Asteroid 2012 DA <sub>14</sub>	Terai, T., et al.	<b>011</b>
10	NIR Polarimetric Imaging of Circumstellar Disks by Subaru/SEEDS	Hashimoto, J., et al.	<b>012</b>
11	Construction of Gauge-invariant Variables of Linear Metric Perturbations on an Arbitrary Background Spacetime	Nakamura, K.	<b>013</b>
12	On the Formation Timescale of Massive Cluster Ellipticals Based on Deep Near-infrared Spectroscopy at $z \sim 2$	Tanaka, M., et al.	<b>014</b>
13	On the Sodium versus Iron Correlation in Late B-Type Stars	Takeda, Y., et al.	<b>015</b>
14	Visible Spectroscopic Observations of a Near-Earth Object, 2012 DA <sub>14</sub>	Urakawa, S., et al.	<b>016</b>
15	Starformation in Ram-pressure Stripped Gas Tail in the Virgo Cluster	Yagi, M., et al.	<b>017</b>
16	Discovery of Disk Origin Narrow Metallic Absorption Lines Observed during the 2009–2011 Eclipse of $\epsilon$ Aurigae	Sadakane, K., et al.	<b>018</b>
17	The Core-Collapse Time of Star Clusters with Mass Functions	Fujii, M., Portegies Zwart, S.	<b>019</b>
18	Atmospheric Study of the Hot Uranus GJ3470b via Multi-band Simultaneous Photometry	Fukui, A., et al.	<b>020</b>
19	Star Formation Rate and Metallicity in Damped Lyman $\alpha$ System	Okoshi, K., et al.	<b>021</b>
20	Nature of H $\alpha$ Selected Galaxies at $z > 2$ . I. Main Sequence and Dusty Star-forming Galaxies	Tadaki, K.-i., et al.	<b>022</b>
21	Nature of H $\alpha$ Selected Galaxies at $z > 2$ . II. Clumpy Galaxies and Compact Star-forming Galaxies	Tadaki, K.-i., et al.	<b>023</b>
22	High-Albedo C-Complex Asteroids In The Outer Main Belt: The Near Infrared Spectra	Kasuga, T., et al.	<b>024</b>
23	Development of High Damage Threshold and Ultra-low Loss Mirrors	Tatsumi, D., et al.	<b>025</b>
24	Detection of an Ultra-bright Submillimeter Galaxy behind the Small Magellanic Cloud	Takekoshi, T., et al.	<b>026</b>
25	Discovery of Hot Water Vapor Gas Disk around a Massive Protostar Candidate Orion KL Source I	Hirota, T., et al.	<b>027</b>
26	Calibrating [OII] Star-formation Rates at $z > 1$ from Dual H $\alpha$ -[OII] Imaging from HiZELS	Hayashi, M., et al.	<b>028</b>
27	Planetary Companions to Three Intermediate-Mass GK Giants	Sato, B., et al.	<b>029</b>
28	Growth of Massive Galaxies in the Early Universe Revealed by Subaru’s FMOS	Kashino, D., et al.	<b>030</b>
29	Dense Optical and Near-Infrared Monitoring of CTA 102 during High State in 2012 with Oister; Detection of Intra-Night “Orphan Polarized Flux Flare”	Itoh, R., et al.	<b>031</b>
30	Minute-scale Rapid Variability of the Optical Polarization in the Narrow-line Seyfert 1 Galaxy PMN J0948+0022	Itoh, R., et al.	<b>032</b>
31	Measurements of Coronal and Chromospheric Magnetic Fields Using Polarization Observations by the Nobeyama Radioheliograph	Iwai, K., Shibasaki, K.	<b>033</b>

32	600 Pixels MKID Superconductive Millimeter-wave Camera	Sekimoto, Y., et al.	<b>034</b>
33	The Mass-metallicity Relation at $z \sim 1.4$ Revealed with Subaru/FMOS	Yabe, K., et al.	<b>035</b>
34	GRB 130427A: A Nearby Ordinary Monster	Maselli, A., et al.	<b>036</b>
35	Numerical Treatment of Anisotropic Radiation Field Coupling with the Relativistic Resistive Magnetofluids	Takahashi, H., Ohsuga, K.	<b>037</b>
36	Direct Imaging of a Compact Molecular Outflow from a Very Low Luminosity Object: L1521F-IRS	Takahashi, S., et al.	<b>038</b>
37	Growth of Rayleigh-Taylor and Richtmyer-Meshkov Instabilities in Relativistic Jets	Matsumoto, J.	<b>039</b>
38	A Big-Bang Nucleosynthesis Limit on the Neutral Fermion Decays into Neutrinos	Kasukabe, M., et al.	<b>040</b>
39	${}^7\text{Be}$ Charge Exchange between ${}^7\text{Be}^{3+}$ Ion and Exotic Long-lived Negatively Charged Massive Particle in Big Bang Nucleosynthesis	Kasukabe, M., et al.	<b>041</b>
40	R-process Nucleosynthesis in the Central Engine of Gamma-Ray Bursts, i.e. Neutrino-Heated Collapsar Jets	Nakamura, K., et al.	<b>042</b>
41	Supernova Neutrino Nucleosynthesis of Radioactive ${}^{92}\text{Nb}$ and the Timescale for Solar System Formation	Hayakawa, T., et al.	<b>043</b>
42	Asymmetric Neutrino Production in Magnetized Proto-Neutron Stars in Fully Relativistic Mean-Field Theory and Application to Pulsar Kick and Rotational Spin Down	Maruyama, T., et al.	<b>044</b>
43	Astronomical Method to Determine the Neutrino Mass Hierarchy	Suzuki, T., Kajino, T.	<b>045</b>
44	Absolute Proper Motion of IRAS 00259+5625 with VERA: Indication of Superbubble Expansion Motion	Sakai, N., et al.	<b>046</b>
45	Direct Imaging of a Cold Jovian Planet Orbiting the Sun-like Star GJ 504	Kuzuhara, M., et al.	<b>047</b>
46	Reducing Systematic Error in Weak Lensing Cluster Surveys	Utsumi, Y., et al.	<b>048</b>
47	Toward Realization of Submillimeter-wave Camera	Hibi, Y., et al.	<b>049</b>
48	In-medium Effects on Neutrino Reactions inside the Neutron Star	Cheoun, M.-K., et al.	<b>050</b>
49	Neutron Stars in a Perturbative $f(R)$ Gravity Model with Strong Magnetic Fields	Cheoun, M.-K., et al.	<b>051</b>
50	Origin of Ultra High-Energy Neutrinos via Heavy-Meson Synchrotron Emission in Strong Magnetic Fields	Kajino, T., et al.	<b>052</b>
51	Long-term Global Solar Activity Observed by the Nobeyama Radioheliograph	Shibasaki, K., et al.	<b>053</b>