

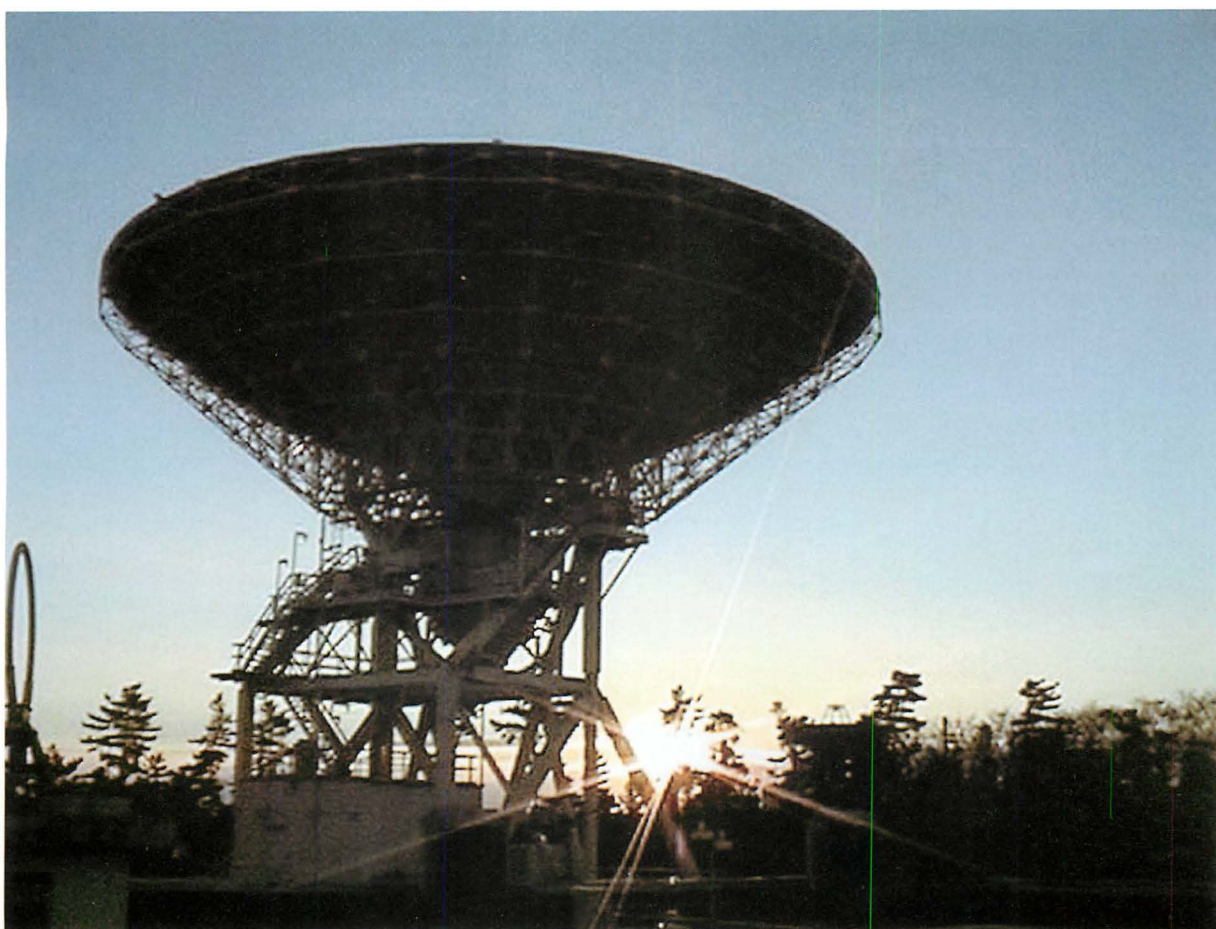
Special Issue

Large Aperture Radio Telescopes at
Kashima Space Research Center

CONTENTS

1. Forward	<i>Tetsuro Kondo</i>	1
2. VLBI Observation Results		
2.1 International VLBI Experiments	<i>Tetsuro Kondo and Taizoh Yoshino</i>	3
2.2 Geodetic Results from Domestic VLBI Observations	<i>Yasuhiro Koyama</i>	13
2.3 Geodetic VLBI Activities at GSI	<i>Yoshihiro Fukuzaki and GSI VLBI group</i>	17
2.4 Operations and Results of J-Net (Japanese Domestic VLBI Network)	<i>Toshihiro Omodaka, Osamu Kameya, Makoto Miyoshi, Takeshi Miyaji, Tetsuo Sasao, Tetsuro Kondo, Yasuhiro Koyama, Junichi Nakajima, Mamoru Sekido, Eiji Kawai, Hiro Osaki, Hiroshi Okubo, Michito Imae, Yukio Takahashi, Noriyuki Kurihara, Hiroshi Takaba, Takahiro Iwata, Noriyuki Kawaguchi, Kenzaburo Iwadate, Hideyuki Kobayashi, Katsunori Shibata, Seiji Kameno, Yasuhiro Murata, and Hiroshi Imai</i>	23
2.5 Stellar Evolution and Water Maser Emission	<i>Hiroshi Imai</i>	31
2.6 Space VLBI Mission: VSOP	<i>Yasuhiro Murata, Hisashi Hirabayashi, Hideyuki Kobayashi, Katsunori Shibata, Tomofumi Umemoto, and P. G. Edwards</i>	41
2.7 GALAXY—Real-time VLBI for Radio Astronomy Observations	<i>Kenta Fujisawa, Noriyuki Kawaguchi, Hideyuki Kobayashi, Satoru Iguchi, Takeshi Miyaji, Kazuo Sorai, Tetsuro Kondo, Yasuhiro Koyama, Junichi Nakajima, Mamoru Sekido, Hiro Osaki, Hiroshi Okubo, Hitoshi Kiuchi, Yukio Takahashi, Akihiro Kaneko, Hisashi Hirabayashi, Yasuhiro Murata, Hisao Uose, Sotetsu Iwamura, and Takashi Hoshino</i>	47
3. Antenna System Improvements		
3.1 34-m Antenna System Improvement	<i>Eiji Kawai, Noriyuki Kurihara, Tetsuro Kondo, Junichi Nakajima, Yasuhiro Koyama, Mamoru Sekido, Hiroshi Takaba, Hiro Osaki, and Hiroshi Okubo</i>	59
3.2 Development of Dicke-type Radiometer for 22 GHz Band	<i>Hiroshi Okubo, Yasuhiro Koyama, Mamoru Sekido, and Eiji Kawai</i>	73
3.3 Structure Model Analysis of the Kashima 34m Telescope	<i>Junichi Nakajima, Takeshi Saita, Junji Horiguchi, and Kouhei Yuge</i>	83
3.4 Radio Telescope Interference from a Ground Transmitter	<i>Junichi Nakajima, Yasuhiro Koyama, Mamoru Sekido, Noriyuki Kurihara, Tetsuro Kondo, and Katsunori Shibata</i>	91
4. Radio Science Results		
4.1 An Evaluation of Atmospheric Gradient Using Water Vapor Radiometers in Kashima, Japan	<i>Ryuichi Ichikawa, Hiroshi Ohkubo, Yasuhiro Koyama, and Tetsuro Kondo</i>	97

4.2 Water Vapor Maser Survey by Using the Kashima 34 m Radio Telescope	<i>Hiroshi Takaba, Takahiro Iwata, Takeshi Miyaji, and Shuji Deguchi</i>	105
4.3 Millisecond Pulsar Timing Observations at CRL	<i>Yuko Hanado, Yasuhisa Shibuya, Mizuhiko Hosokawa, Mamoru Sekido, and Michito Imae</i>	135
4.4 Radar Observations of Near Earth Asteroids 6489 Golevka and 4197 (1982 TA)	<i>Yasuhiro Koyama, Junichi Nakajima, Mamoru Sekido, Makoto Yoshikawa, Akiko M. Nakamura, Hisashi Hirabayashi, Tatsuaki Okada, Masanao Abe, Toshiyuki Nishibori, Tetsuharu Fuse, Steven J. Ostro, Dennis Choate, Reginald A. Cormier, Ron Winkler, Raymond F. Jurgens, Jon D. Giorgini, Keith D. Rosema, David L. Mitchell, Donald K. Yeomans, Martin A. Slade, and Alexander L. Zaitsev</i>	143
4.5 Evaluation of GPS-based Ionospheric TEC Estimation and Application to Pulsar VLBI Observation	<i>Mamoru Sekido, Tetsuro Kondo, Eiji Kawai, Yuko Hanado, and Michito Imae</i>	151
4.6 Observing Electromagnetic Radiation by Leonid Impacts on the Moon	<i>Hiro Osaki, Hiroshi Okubo, and Yasuhiro Koyama</i>	159
4.7 Observations of Short Term Variation of Jovian Synchrotron Radiation	<i>Yoshizumi Miyoshi, Hiroaki Misawa, Akira Morioka, Tetsuro Kondo, Yasuhiro Koyama, and Junichi Nakajima</i>	165
4.8 Exploration of Solar Wind Acceleration Region Using Interplanetary Scintillation of Water Vapor Maser Source and Quasars	<i>Munetoshi Tokumaru, Yohei Yamauchi, and Tetsuro Kondo</i>	173
5. Concluding Remarks	<i>Hiroshi Kumagai</i>	197



Kashima 34m antenna and the sunrise on New Century's Day of the 21st century (photo by T. Kondo)