

May 18, 2012 (Friday)

■Venue: 9:00-12:00 Room L-921 (Library) / 13:00-18:30 Room 3-123 (Building #3)

9:00		Opening Remarks	[N. Kuze]
			[Chair: Asao Mizoguchi]
9:10	L1	Far-infrared Emission from the Autoionization Rydberg States of NO and Its Polarization Properties (Tokyo Univ. of Science) H. Furukawa, K. Abe, M. Araki, K. Tsukiyama	
9:30	L2	Accurate Analytic Potentials for the $A^3\Pi_{1u}$ and $X^1\Sigma_g^+$ States of Br <sub>2</sub> by Direct Potential Fitting using VUV, UV, VIS and NIR Data (Tokyo Polytechnic Univ. <sup>a</sup> , Univ. of Waterloo <sup>b</sup> ) T. Yukiya <sup>a</sup> , N. Nishimiya <sup>a</sup> , M. Suzuki <sup>a</sup> , R. J. Le Roy <sup>b</sup>	
9:50	L3	The Photoelectron Spectroscopy of Inner Shell Ionization in Vibrationally Excited Triatomic Molecules (Sophia Univ. <sup>a</sup> , Tohoku Univ. <sup>b</sup> , JASRI <sup>c</sup> ) M. Hoshino <sup>a</sup> , H. Kato <sup>a</sup> , H. Murai <sup>a</sup> , Y. Ishijima <sup>a</sup> , A. Suga <sup>a</sup> , N. Kuze <sup>a</sup> , M. Kimura <sup>b</sup> , H. Fukuzawa <sup>b</sup> , Y. Tamenori <sup>c</sup> , H. Tanaka <sup>a</sup> , K. Ueda <sup>b</sup>	
10:10		B R E A K	
			[Chair: Kensuke Harada]
10:30	L4	Microwave Spectrum of Gold Monosulfide AuS (Shizuoka Univ.) S. Mizuno, M. Tokumoto, T. Okabayashi	
10:50	L5	FTMW Spectroscopy of Coinage Metal Monoacetylides (AgCCH, AuCCH) (Shizuoka Univ., Tokyo Univ. of Science, Sophia Univ.) H. Kubota, T. Okabayashi, M. Araki, N. Kuze	
11:10	L6	Observation of the Pure Rotational Spectra of <i>trans</i> -HOCO–H <sub>2</sub> O Complex (The Univ. of Tokyo <sup>a</sup> , Gunma Univ. <sup>b</sup> ) T. Oyama <sup>a</sup> , M. Nakajima <sup>a</sup> , Y. Sumiyoshi <sup>b</sup> , Y. Endo <sup>a</sup>	
11:30	L7	Tunnelling Splitting of HOOD Observed in FIR Spectra (AIST <sup>a</sup> , UNB <sup>b</sup> , U. Köln <sup>c</sup> ) K. M. T. Yamada <sup>a</sup> , F. Ito <sup>a</sup> , S. C. Ross <sup>a,b</sup> , D. Herberth <sup>c</sup> , S. Schlemmer <sup>c</sup> , T. F. Giesen <sup>c</sup>	
11:50		L U N C H	
			[Chair: Masakazu Nakajima]
13:00	L8	Millimeter and Submillimeter-wave Spectrum of Aminoacetonitrile (Toho Univ. <sup>a</sup> , Univ. Toyama <sup>b</sup> ) Y. Motoki <sup>a</sup> , Y. Tsunoda <sup>a</sup> , H. Ozeki <sup>a</sup> , K. Kobayashi <sup>b</sup>	
13:20	L9	Microwave Study of Methyl Formate in the New Vibrational Excited States (Univ. of Toyama <sup>a</sup> , Kanazawa Univ. <sup>b</sup> ) Y. Sakai <sup>a</sup> , K. Kobayashi <sup>a</sup> , M. Tsukamoto <sup>b</sup> , M. Fujitake <sup>b</sup> , N. Ohashi <sup>b</sup>	
13:40	L10	Spontaneous Emission between <i>ortho</i> - and <i>para</i> -Levels of Water-ion, H <sub>2</sub> O <sup>+</sup> (N. Chiao Tung Univ., Kyushu Univ., Sophia Univ., Univ. of Chicago) K. Tanaka, K. Harada, S. Nanbu, T. Oka	
14:00	L11	Observation of the Lamb-dip of H <sub>3</sub> <sup>+</sup> Molecular Ion (National Tsing Hua Univ. <sup>a</sup> , Industrial Technology Research Institute <sup>b</sup> , Univ. of Waterloo <sup>c</sup> ) H.-C. Chen <sup>a</sup> , C.-Y. Hsiao <sup>a</sup> , J.-L. Peng <sup>b</sup> , T. Amano <sup>c</sup> , J.-T. Shy <sup>a</sup>	
14:20		B R E A K	
			[Chair: Yasuhiro Hirahara]
14:40	L12	A Study of Cold Molecular Ion-polar Molecule Reactions using a Stark Velocity Filter	

(Sophia Univ.<sup>a</sup>, RIKEN<sup>b</sup>, Texas A&M Univ.<sup>c</sup>) T. Furukawa<sup>a</sup>, M. Itikawa<sup>a</sup>, M. Wada<sup>b</sup>, H. A. Schuessler<sup>c</sup>, K. Okada<sup>a</sup>

15:00 **L13** Radio Search for H<sub>2</sub>CCC toward HD183143 as a Candidate of Diffuse Interstellar Band Carrier  
(Tokyo Univ. of Science<sup>a</sup>, NRO<sup>b</sup>, The Graduate Univ. for Advanced Studies<sup>c</sup>, Sophia Univ.<sup>d</sup>) M. Araki<sup>a</sup>, S. Takano<sup>b,c</sup>, K. Abe<sup>a</sup>, H. Yamabe<sup>a</sup>, K. Tsukiyama<sup>a</sup>, N. Kuze<sup>d</sup>

15:20 **L14** Nobeyama 45m Telescope Legacy Project: Line Survey  
(NRO/GUAS<sup>a</sup>, Kobe Univ.<sup>b</sup>, NTHU<sup>c</sup>, ASIAA<sup>d</sup>, NAO<sup>e</sup>, JAXA<sup>f</sup>, Toyama Univ.<sup>g</sup>, Univ. Tokyo<sup>h</sup>, NTNU<sup>i</sup>, Toho Univ.<sup>j</sup>, Univ. Leiden<sup>k</sup>, CfA<sup>l</sup>) S. Takano<sup>a</sup>, Y. Aikawa<sup>b</sup>, V. Chen<sup>c</sup>, N. Hirano<sup>d</sup>, T. Hirota<sup>e</sup>, K. Kamegai<sup>f</sup>, K. Kobayashi<sup>g</sup>, K. Kohno<sup>h</sup>, Y.-J. Kuan<sup>i</sup>, S.-Y. Liu<sup>d</sup>, T. Nakajima<sup>h</sup>, N. Ohashi<sup>e</sup>, M. Ohishi<sup>e</sup>, H. Ozeki<sup>j</sup>, N. Sakai<sup>h</sup>, T. Sakai<sup>h</sup>, S. Shiba<sup>h</sup>, Y.-N. Su<sup>d</sup>, M. Sugimura<sup>h</sup>, S. Takakuwa<sup>d</sup>, T. Umemoto<sup>e</sup>, K.-S. Wang<sup>k</sup>, Y. Watanabe<sup>h</sup>, M. Yamada<sup>d</sup>, T. Yamaguchi<sup>h</sup>, S. Yamamoto<sup>h</sup>, Q.-Z. Zhang<sup>l</sup>

15:40 B R E A K

[Chair: Mitsunori Araki]

15:50 **L15** First-light Observation of High Dispersion Germanium Immersion Grating Mid-Infrared Cryogenic Spectrograph (GIGMICS)  
(Nagoya Univ.<sup>a</sup>, NRO<sup>b</sup>, Hiroshima Univ.<sup>c</sup>, Okayama Univ.<sup>d</sup>) Y. Hirahara<sup>a</sup>, K. Aoki<sup>a</sup>, K. Ota<sup>a</sup>, S. Shibata<sup>a</sup>, T. Hirao<sup>a</sup>, Y. Tatamitani<sup>a,b</sup>, N. Ebizuka<sup>a</sup>, M. Yoshida<sup>c</sup>, K. Kawabata<sup>c</sup>, M. Uemura<sup>c</sup>, T. Oosugi<sup>c</sup>, K. Kawaguchi<sup>d</sup>, R. Fujimori<sup>d</sup>, H. Ohiwa<sup>d</sup>, H. Nagahiro<sup>d</sup>

16:10 **L16** The Observation of [S IV] Forbidden Line in Planetary Nebula NGC7027 using GIGMICS (Germanium Immersion Grating Mid-Infrared Cryogenic Spectrograph)  
(Nagoya Univ.<sup>a</sup>) K. Aoki<sup>a</sup>, S. Shibata<sup>a</sup>, K. Ota<sup>a</sup>, Y. Hirahara<sup>a</sup>, GIGMICS team

16:30 **L17** The Observation of the Vibrational-rotational Transitions of CO<sub>2</sub> in the Atmosphere of Venus using GIGMICS (Germanium Immersion Grating Mid-Infrared Cryogenic Spectrograph)  
(Nagoya Univ.<sup>a</sup>) S. Shibata<sup>a</sup>, K. Aoki<sup>a</sup>, K. Ota<sup>a</sup>, Y. Hirahara<sup>a</sup>, GIGMICS team

16:50 B R E A K

[Chair: TBA]

17:00 **IL** **[Invited Lecture]** Teraelectronvolt Gamma-ray Astronomy – a New Window on the High Energy Universe  
(Univ. College Dublin, Sophia Univ.) J. Quinn

[Chair: Kaori Kobayashi]

17:40 **L18** Spectroscopic Observation of the Radical Species in the Earth's Atmosphere from International Space Station  
(NICT<sup>a</sup>, Tokyo Institute of Technology<sup>b</sup>, Osaka Prefecture Univ.<sup>c</sup>, Luleå Univ. of Technology<sup>d</sup>, Chalmers Univ. of Technology<sup>e</sup>, Japan Aerospace Exploration Agency<sup>f</sup>) Y. Kasai<sup>a,b</sup>, H. Sagawa<sup>a</sup>, T. O. Sato<sup>a,b</sup>, K. Kuribayashi<sup>a,b</sup>, D. Kreyling<sup>a</sup>, J. Urban<sup>c</sup>, D. Murtagh<sup>c</sup>, JEM/SMILES Mission team<sup>a,c,d,e,f</sup>

18:00 **L19** Direct Estimation of the Reaction Rate Constant of ClO + HO<sub>2</sub> → HOCl + O<sub>2</sub> by SMILES Observation  
(Tokyo Institute of Technology<sup>a</sup>, NICT<sup>b</sup>) K. Kuribayashi<sup>a</sup>, H. Sagawa<sup>b</sup>, T. Sato<sup>a</sup>, Y. Kasai<sup>b</sup>

18:20 B R E A K

18:30~  
20:00

S o c i a l   h o u r :

■Venue: Cafeteria in Building #2, Sophia Univ.

May 19, 2012 (Saturday)

■Venue: Room L-921 (Library)

[Chair: Nobuhiko Kuze]

- 9:00 **L20** Theoretical Study of Selectivity Mechanism on Photoisomerization Reaction between Cyclohexadiene and Hexatriene  
(Sophia Univ.<sup>a</sup>, Kyoto Univ.<sup>b</sup>) A. Ohta<sup>a</sup>, T. Ishida<sup>b</sup>, S. Nanbu<sup>a</sup>
- 9:20 **L21** Quantum Monte Carlo Prediction of Vibrational Frequency Shifts of OCS-(He)<sub>N</sub> Clusters  
(Jilin Univ.) H. Li
- 9:40 **L22** Ab initio Normal-mode Vibrational Displacement Vectors for the Three C-H Stretching Vibrations along the Internal Rotation Path in Methanol  
(NIST<sup>a</sup>, Univ. of New Brunswick<sup>b</sup>) J. T. Hougen<sup>a</sup>, L.-H. Xu<sup>b</sup>, R. M. Lees<sup>b</sup>
- 10:00 **L23** Vibronic Spectroscopy of Benzyl-type Radicals using a Technique of Corona Excited Supersonic Expansion  
(Pusan National Univ.) Y. W. Yoon, S. K. Lee

10:20

B R E A K

[Chair: Jian Tang]

- 10:40 **L24** Dicke Narrowing Effect for the Spectrum of CH<sub>3</sub>CN in the Low Pressure Region  
(Tokyo Institute of Technology) A. Mizoguchi, H. Kanamori
- 11:00 **L25** Near-ultraviolet Laser Spectroscopy of the  $\tilde{A} - \tilde{X}$  Transition of the CH<sub>3</sub>CCS Radical  
(Univ. Tokyo) T. Sugiyama, M. Nakajima, Y. Endo
- 11:20 **L26** Laser Spectroscopy of the Vibronic Bands of the SiNSi Radical in the Visible Region  
(Univ. Tokyo<sup>a</sup>, Gunma Univ.<sup>b</sup>) H. Umeki<sup>a</sup>, M. Nakajima<sup>a</sup>, Y. Sumiyoshi<sup>b</sup>, Y. Endo<sup>a</sup>
- 11:40 **L27** An Investigation on Possibility of Observing *ortho-para* Transition, Based on New Measurements of Microwave Spectrum of Disulfur Dichloride; S<sub>2</sub>Cl<sub>2</sub>  
(Tokyo Institute of Technology) Z. Dehghani Tafti, S. Ota, A. Mizoguchi, H. Kanamori

12:00

L U N C H

[Chair: Nami Yamakita]

- 13:00 **L28** Diffusion of Hydrogen Fluoride in Solid parahydrogen  
(Okayama Univ.) H. Ooe, Y. Miyamoto, J. Tang, K. Kawaguchi, S. Kuma, N. Sasao, T. Taniguchi, K. Nakajima, I. Nakano, M. Yoshimura
- 13:20 **L29** Infrared and Mass Spectroscopy of Laser-ablated magnesium  
(Okayama Univ.) Y. Miyamoto, C. Masaki, N. Ikeda, J. Tang, K. Kawaguchi
- 13:40 **L30** Fourier-transform Absorption Spectroscopy using Visible and Near Infrared Diode Lasers as Light Sources  
(Kyushu University) T. Moriyama, K. Harada

14:00

B R E A K

[Chair: Yoshihiro Sumiyoshi]

- 14:20 **L31** FTIR Spectroscopy of the  $\nu_4$  Bands of <sup>14</sup>NO<sub>3</sub> and <sup>15</sup>NO<sub>3</sub>  
(Okayama Univ.<sup>a</sup>, Hiroshima City Univ.<sup>b</sup>) R. Fujimori<sup>a</sup>, N. Shimizu<sup>a</sup>, J. Tang<sup>a</sup>, K. Kawaguchi<sup>a</sup>, T. Ishiwata<sup>b</sup>
- 14:40 **L32** SVL Dispersed Fluorescence Spectra of NO<sub>3</sub>  
(Hiroshima City Univ.) M. Fukushima, T. Ishiwata

15:00 **L33** Ultrahigh-resolution Laser Spectroscopy of the  $B-X$  Transition 0–0 Band of NO<sub>3</sub> Radical  
(Kobe Univ.<sup>a</sup>, Kyoto Univ.<sup>b</sup>, Hiroshima City Univ.<sup>c</sup>, The Graduate Univ. for Advanced Studies<sup>d</sup>)  
K. Tada<sup>a</sup>, S. Kasahara<sup>a</sup>, M. Baba<sup>b</sup>, T. Ishiwata<sup>c</sup>, E. Hirota<sup>d</sup>

15:20 **B R E A K**

[Chair: Masaru Fukushima]

15:40 **L34** Gratings for High Dispersion Spectroscopy  
(Nagoya Univ.<sup>a</sup>, Nagoya Univ.<sup>b</sup>, Japan Women's Univ.<sup>c</sup>, Tohoku Univ.<sup>d</sup>, Hiroshima Univ.<sup>e</sup>,  
RIKEN<sup>f</sup>, NAOJ<sup>g</sup>, INAF Osservatorio Astronomico di Brera<sup>h</sup>) N. Ebizuka<sup>a</sup>, M. Hori<sup>a</sup>, Y. Hirahara<sup>b</sup>,  
S. Sato<sup>b</sup>, K. Kodate<sup>c</sup>, T. Ichikawa<sup>d</sup>, K. S. Kawabata<sup>e</sup>, H. Omori<sup>f</sup>, W. Aoki<sup>g</sup>, M. Iye<sup>g</sup>, A. Bianco<sup>h</sup>,  
F. M. Zerbi<sup>h</sup>

16:00 **L35** High Resolution Spectroscopy of Iodine Molecule with Frequency Markers Generated by  
an Optical Frequency Comb  
(Fukuoka Univ.) A. Nishiyama, D. Ishikawa, M. Misono

16:20 **L36** Sub-doppler Resolution Molecular Spectroscopy with Optical-comb-referenced  
Difference-frequency-generation Spectrometer  
(Keio Univ.) K. Iwakuni, S. Okubo, H. Nakayama, M. Abe, H. Sasada

16:40 **Closing Remarks**