THURSDAY MORNING (ROOM 160B)
Microwave & Millimeter-Wave Astrochemistry
I. Gordon, *Presiding*

8:30 Introductory Remarks.
8:35 (556). New instrumental and synthetic developments in rotational spectroscopy: A focus on metal-bearing radicals. **L.M. Ziurys**, D.T. Halfen, M. Burton, J. Keogh, P.M. Sheridan
9:15 (557). Millimeter-wave spectroscopy of KO: Metal oxides relevant to astrochemistry. **M. Burton**, B. Russ, P.M. Sheridan, M.P. Bucchino, L.M. Ziurys
9:35 (558). Spectroscopic characterization of astrophysical isomers: The relatives of ketene. **M. Martin-Drumel**, K. Lee, O. Pirali, J. Guillemin
9:55 ***INTERMISSION***
10:25 (559). From weeds to dust: Astrochemical insights by rotational spectroscopy. **A. Steber**
11:05 (560). Tracing the origins of nitrogen bearing organics toward Orion KL with ALMA. **B. Carroll**, G.A. Blake
11:25 (561). From one to two dimensional interstellar carbon: A synthesis of laboratory, observations, and theory. **B. McGuire**, K. Lee, M.C. McCarthy

THURSDAY AFTERNOON (ROOM 160B)
Condensed-Phase Astrochemistry
K. Oberg, *Presiding*

1:30 Introductory Remarks.
1:35 (588). Study of morphology, diffusion and ordering kinetics of CO_2 and CO_2/H_2O thin film ices. **G. Vidali**, J. He, S. Emtiaz
2:15 (589). Some subtle problems of ice-phase astrochemistry and spectroscopy. **R.L. Hudson**, P. Gerakines
2:35 (590). Laboratory spectroscopy with a miniature mm-wave cavity spectrometer and coupled laser-ablation source. **A. Raymond**, B. Drouin, M. McCarthy, K. Lee, E. Mazur
2:55 ***INTERMISSION***
3:25 (591). Submillimeter spectroscopy of sublimated interstellar ice analogs: A new technique for laboratory astrochemistry. **P. Gerakines**, S.L. Widicus Weaver, S.N. Milam, K. Yocum, H. Smith
4:05 (592). Spectroscopic measurements of radicals in outer Solar System ice analogs. **E. Fayolle**, P.V. Johnson, R. Hodyss, X. Zhang, S.P. Sander
4:25 Concluding Remarks.

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Room 204B
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August 19-23, 2018

SUNDAY AFTERNOON
Astrochemical Challenges & Opportunities
K. N. Crabtree, Presiding

1:30 Introductory Remarks.
1:35 (81). Cavity-enhanced millimeter and submillimeter spectroscopy as a probe of reaction dynamics. **S.L. Widicus Weaver**, K. Roenitz, C. Wright, H. Bunn, C. Powers, K. Yocum
2:15 (82). "Grotthuss-like" proton relays in anomalous carbocations dictate spectroscopy, stability and mechanisms: Case studies on small and medium sized non-classical hydrocarbons along with deuterated counterparts.
S.S. Iyengar
2:35 (83). Photoelectron-photoion coincidence spectroscopy for laboratory astrochemistry: VUV Photodynamics of radicals, PAHs, sulfur containing compounds and other peculiar molecules. **H.R. Hrodmarsson**, G. Garcia, L. Nahon
2:55 *INTERMISSION*
3:25 (84). Computing rotational, rovibrational, and vibrational spectra for astronomical observations: high accuracy line lists for high temperatures, limited line lists for biosignature molecules, and PAH emission spectra.
T.J. Lee
4:05 (85). Utilizing tunable vacuum ultraviolet light for isomer specific detection of complex organic molecules from astrophysical ice analogues: The hydrocarbon chemistry of interstellar ices. **M. Abplanalp**, S. Góbi, R. Kaiser
4:25 (86). Developments in high-resolution spectroscopy of Rydberg states of small molecules. **T. Barnum**, J. Jiang, R. Field

MONDAY MORNING: *New Experimental Methods*
M. C. McCarthy, Presiding

8:30 Introductory Remarks.
8:35 (132). Terrestrial progress toward infrared spectroscopy/detection of hydrocarbon radicals and molecular ions in the interstellar medium.
D.J. Nesbitt
9:15 (133). Preparation, characterization and storage of water vapours highly enriched in its ortho-H_2O nuclear spin isomer. **P. Ayotte**, J. Vermette, I. Braud, P. Turgeon, X. Michaut, G. Alexandrowicz
9:35 (134). Sub-THz cavity enhanced absorption with a conventional confocal Fabry-Perot resonator. K. Truitt, R. O'Neal, J. Bracewell, **L. Duffy**
9:55 *INTERMISSION*
10:25 Buffer-gas cell and molecular beam sources for chirality-sensitive spectroscopy and population transfer experiments. **C. Perez**, A. Steber, D. Patterson
11:05 (136). AC Stark effect observed in a microwave-(sub)millimeter wave double resonance experiment. **K. Roenitz**, B. Hays, C. Power, M.N. McCabe, H. Smith, S.L. Widicus Weaver, S.T. Shipman
11:25 (137). Determination of the sign of the population difference in a two-level system by frequency-modulation spectroscopy. **J. Jiang**, Z. Du, R. Field

MONDAY AFTERNOON
Optical & Infrared Astrochemistry: Large Molecules
S. Widicus-Weaver, Presiding

1:30 Introductory Remarks.
1:35 (191). Triple-resonance laser spectroscopy of protonated PAHs.
T.W. Schmidt, S. Kable, K. Nauta, O. Krechkivska
2:15 (192). Rotationally-resolved infrared frequency comb spectroscopy of the C_{60} fullerene. **M.L. Weichman**, P.B. Changala, T.Q. Bui, K. Iwakuni, J.F. Niedermeyer, K.F. Lee, M.E. Fermann, J. Ye
2:55 *INTERMISSION*
3:25 (193). Interstellar PAHs: From ground to space, expanding spectroscopic frontiers. **F. Salama**
4:05 (194). Infrared spectra of protonated and hydrogenated corannulene ($C_{20}H_{10}$) and sumanene ($C_{21}H_{12}$) in solid para-hydrogen. **P. Sundararajan**, M. Tsuge, Y. Lee
4:25 (195). Validating the recent identification of interstellar C_{60}^+ using VLT UVES and a new method for high-signal-to-noise HST STIS spectroscopy.
M. Cordiner, N. Cox, R. Lallement, F. Najarro, J. Cami, T. Gull, B. Foing, H. Linnartz, D. Lindler, C. Proffitt, P. Sarre, S. Charnley, J. Smoker, A. Fahrang, M. Elyajouri, E. Consortium

TUESDAY MORNING
Optical & Infrared Astrochemistry: Small Molecules
K. L. K. Lee, Presiding

8:30 Introductory Remarks.
8:35 (247). Broad bandwidth laser frequency combs for terrestrial and astronomical spectroscopy. **S. Diddams**
9:15 (248). Purified *para* and *ortho*-water for fundamental physics and chemical reactions. **J. Kupper**
9:35 (249). Probing vibrationally excited states of astrophysically important species by stimulated emission pumping (SEP) spectroscopy. **N. Reilly**
9:55 *INTERMISSION*
10:25 (250). Spectroscopy of an argon-oxygen covalent bond in the $ArOH^+$ cation. J.P. Wagner, D. McDonald II, **M.A. Duncan**
10:45 (251). Accuracy of spectroscopic constants predicted by explicitly correlated methods. **M. Gronowski**
11:05 Infrared spectrum of H_3^+ as *the* probe for cosmic rays. **T. Oka**

WEDNESDAY MORNING
Solar System & Planetary Atmospheres
S. Brünken, *Presiding*

8:30 Introductory Remarks.
8:35 (309). Spectroscopy and data science in the service of planetary remote sensing: the HITRAN and HITEMP databases. **I. Gordon**, L.S. Rothman, R.V. Kochanov, Y. Tan, C. Hill
9:15 (310). The ExoMol atlas of cool star and exoplanet molecular opacities. **J. Tennyson**, S. Yurchenko
9:35 (311). Novel metalorganic compounds revealed in meterorites.
A. Ruf, P. Schmitt-Kopplin
Winner of Best Dissertation Award from the Astrochemistry Subdivision: Alexander Ruf
9:55 *INTERMISSION*
10:25 (312). Infrared and near-infrared spectroscopy of hot molecules for exoplanets. **P.F. Bernath**
11:05 (313). Inelastic collisions dynamics of optically-centrifuged high-J molecules: Transient spectroscopy beyond the sudden regime.
A.S. Mullin
11:25 (314). Pyrolysis and matrix-isolation FTIR spectroscopy for characterization of astrochemically significant radicals. G.J. Brown, M.J. Ellis, **L.R. McCunn**

WEDNESDAY AFTERNOON
Kinetics & Dynamics
L. M. Ziurys, *Presiding*

1:30 Introductory Remarks.
1:35 (367). Rotational and vibrational action spectroscopy of reactive hydrocarbon cations: Intermediates in interstellar carbon chemistry.
S. Brünken, P. Jusko, O. Asvany, B. Redlich, S. Schlemmer
2:15 (368). Metastable atomic spectroscopy (MAS) of the $N(^2D_J)$ atoms using photofragment excitation spectroscopy (PHOFEX) and a slice imaging time of flight mass spectrometer (SI-TOF-MS). Y.C. Chang, K. Liu, K. Kalogerakis, C. Ng, **W.M. Jackson**
2:35 (369). High-resolution photoelectron imaging of C_nP^- clusters: Towards their possible detection in the interstellar medium.
G. Kocheril, J.G. Czekner, L. Cheung, L. Wang
2:55 *INTERMISSION*
3:25 (370). IR spectroscopy and ice kinetics. **K. Oberg**, J. Bergner, I. Cooke
4:05 (371). Chirped-pulse microwave spectroscopy in uniform supersonic flows: Isomer-specific branching in photodissociation of propargyl radical. **B. Broderick**, N. Suas-David, N. Dias, A.G. Suits
4:25 (372. Formation of HC_5N in space environments. M. Fournier, B. Joalland, S. Cheikh Sid Ely, J. Guillemin, S.J. Klippenstein, **I.R. Sims**