## PROGRAM OF EVENTS AT IAU SYMPOSIUM NO. 87

Only the actual speakers are listed here. Consult the Table of Contents for the complete authorship of the papers presented.

SESSION I Monday, 6 August 1979 0830 hrs. Chairman - C.H. Townes Introductory Remarks - J.L. Locke Invited Talk: Molecular Species and Characteristics P. Thaddeus in Cool Dense Clouds Detection of Submillimeter Lines of CO(0.65 mm) and T.G. Phillips  $H_2O(0.79 \text{ mm})$ New Detection of Spectral Lines in the Frequency P. Vanden Bout Range 260-285 GHz Observations of SO in Dark Molecular Clouds W.M. Irvine Invited Talk: Optical Observations of Interstellar T.P. Snow, Jr. Molecules Interstellar Rotational Fine Structure Lines of F.H. Chaffee, Jr. C<sub>2</sub> Towards ζ Persii Observations of Interstellar Molecules with the J.H. Black International Ultraviolet Explorer Monday, 6 August 1979 1400 hrs. SESSION II Chairman - D.A. Ramsay Invited Talk: Infrared Measurements of Molecules, D.N.B. Hall Particularly in Circumstellar Material Infrared Heterodyne Spectroscopy of Circumstellar A.L. Betz Molecules Spectroscopic Studies of IRC+10216 and Related S.T. Ridgway **Objects** Invited Talk: Recent Laboratory Work on Molecules G. Herzberg of Possible Importance for Interstellar Studies Polarized Emission in the Broad SiO Feature from R Leo F.O. Clark The 4-8 µm Spectrum of the Infrared Source W33A S.P. Willner Chemical Identification of Grain Mantles by Infrared L.J. Allamandola Molecular Fluorescence and Absorption Interstellar Molecule Production by Grains in J.M. Greenberg Molecular Clouds - Laboratory Analog Results and Theoretical Applications

xxxvii

PROGRAM OF EVENTS

xxxviii

xxxviii	PROGRAM OF EVENTS
SESSION III Tuesday, 7 August 1979 0830	hrs.
Chairman - N.W. Broten	
Invited Talk: Long Chain Molecules in the Inter- Stellar Medium	L.W. Avery
Long Carbon Chain Molecules in the Laboratory and in Space	G. Winnewisser
Formation of Interstellar Linear Molecules Invited Talk: Experimental Measurements of Ion- molecule Reactions	A. Sakata F.C. Fehsenfeld
An ICR Study of Ion-molecule Reactions in the $C_2H_2/HCN$ System	M.J. McEwan
Gas Phase Synthesis of Cyano-, Amino- and Nitroso- Compounds in Interstellar Gas Clouds	N.G. Adams
High Resolution 4.8 GHz Mapping of H <sub>2</sub> CO using the Westerbork Synthesis Radio Telescope	J.R. Forster
Invited Talk: High Frequency Rotational Spectra of Free Radicals with Laser Magnetic Resonance	K.M. Evenson
Invited Talk: The Hydrogen Molecule as a Collision Partner	T. Oka
SESSION IV Tuesday, 7 August 1979 2030	hrs.
Chairman - C. Willis	
Invited Talk: Molecular Formation in Cool Clouds The Formation of Hydrocarbons and Iron Hydrides on Cold Interstellar GrainsExperimental Studies	W.D. Watson A. Bar-Nun
Laboratory and Modelling Studies of Chemistry in Dense Molecular Clouds	W.T. Huntress, Jr.
The Formation of Complex Interstellar Molecules by Radiative Association	E. Herbst
Invited Talk: Molecular Formation and Excitation in Hot Diffuse Clouds	A. Dalgarno
Molecular Abundances in IRC+10216 The Photodissociation of Interstellar CH <sup>+</sup>	E.M. McCabe K. Kirby
Ammonia Observations of the Molecular Clouds near S68, S140 and OMC2	D.N. Matheson
SESSION V Wednesday, 8 August 1979 0830	hrs.
Chairman - M. Morimoto	
Invited Talk: Measurements of Isotopic Abundances in Interstellar Clouds	A. Penzias
Detection of Deuterated Formaldehyde in Interstellar Clouds	W.D. Langer
High Spatial Resolution Studies of $H^{13}CN$ , $H^{12}CN$ and $HCO^+$ J=1-0 Emissions in Orion A	A. Hjalmarson

Clouds

SESSION VI

SESSION VIT

stellar Clouds

Formaldehyde in Dense Molecular Clouds:  $H_2$ T.L. Wilson Densities and  $({}^{12}C/{}^{13}C)$  Ratios The  $^{12}C/^{13}C$  Ratio in Interstellar Dark Clouds W.H. McCutcheon Isotopic Fractionation in the Interstellar Carbon-V. Vanýsek Bearing Molecules not Related to Carbon Monoxide CO Abundance and Isotopic Fractionation in Dark P.F. Goldsmith Invited Talk: Interpretation of Isotopic Abundances M. Guélin in Interstellar Clouds Wednesday, 8 August 1979 2030 hrs. Chairman - G. Winnewisser Invited Talk: Physical and Dynamical Conditions in N.J. Evans II Interstellar Clouds Hydrostatic Models of Molecular Clouds T. de Jong Clumpy Molecular Clouds: A Dynamic Model Self-J. Silk Consistently Regulated by T-Tauri Star Formation The Large-Scale Distribution of Molecular Clouds in M. Morris Orion and Monoceros Invited Talk: Behavior and Significance of Circum-B. Zuckerman Observation of Circumstellar Clouds P.G. Wannier Atomic Hydrogen in and Around the Giant Molecular Y. Fukui Cloud Near W3 and W4 Molecular Clouds Near Supernova Remnants V.I. Slysh Thursday, 9 August 1979 0830 hrs. Chairman - T. Gold

xxxix

Invited Talk: The Galactic Distribution, Mass P. Solomon and Age of Molecular Clouds On the Formation of Giant Molecular Cloud Complexes B.G. Elmegreen and the Appearance of Spiral Structure in Galaxies Columbia CO Survey: Molecular Clouds and Spiral R.S. Cohen Structure The Evolution of Molecular Clouds C. Norman The Rotation Curve of the Galaxy to R = 16 kpcL. Blitz *Invited Talk:* Observations of Shock Waves in S. Beckwith Interstellar Clouds Observations of the v=0, S(2) Line of Molecular T.R. Geballe Hydrogen at 12.28 Microns in the Orion Molecular Cloud High Velocity Gas in the Kleinmann-Low Nebula N.Z. Scoville Invited Talk: Theoretical Considerations of Shock D. Hollenbach Wave Behavior

**PROGRAM OF EVENTS** 

Thursday, 9 August 1979 1930 hrs. Conference Banquet Chairman - C.H. Townes Remarks on behalf of Participants - M. Morimoto Invited Address - B.J. Bok Friday, 10 August 1979 0830 hrs. SESSION VIII Chairman - V.I. Slysh Invited Talk: Observational Characteristics of Masers L. Snyder Associated with Stars Invited Talk: Observational Characteristics of Masers D. Downes in Regions of Star Formation Further Observations of Extragalactic H<sub>2</sub>O Sources J.R.D. Lépine The SiO Maser in Orion W. Welch Time Variations of Interstellar Water Masers in HII G.H. Macdonald Regions Invited Talk: Interpretation of High-velocity V. Burdjuzha H<sub>2</sub>O Masers Interpretation of Circumstellar Masers P. Goldreich Invited Talk: A-Doublet Population Inversion in Collisions of OH, OD, D. Field CH, CD, and NH<sup>+</sup> Pumping Mechanism of OH Masers A. Omont Friday, 10 August 1979 SESSION IX 1400 hrs. Chairman - V. Radhakrishnan Carbon Monosulphide Emission and Turbulent Cores in R.A. Linke Molecular Clouds Observations and Theory of an Expanding Molecular Cloud J. Bally Network Surrounding an Old HII Region: W80 (The Pelican Nebula) Molecular Fan of 360 pc Radius in the Galactic Center Y. Fukui Region Round Table Discussion of New Experimental Possibilities and the Future Maser Amplifiers E. Kollberg Wideband Spectrometers for Millimetre Wavelengths B.J. Robinson Future Possibilities for Ultraviolet Observations G.R. Carruthers of Interstellar Molecules Future Spectral Line Research with the VLA K.J. Johnston New Experimental Possibilities and Future Prospects D.N.B. Hall for 1-5 µm Infrared Spectroscopy of Interstellar Molecules New Experimental Possibilities and the Future at C.H. Townes Far IR Wavelengths

xl