

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 A. Sakata
- Invited Talk:* Experimental Measurements of Ion-molecule Reactions F.C. Fehsenfeld
- An ICR Study of Ion-molecule Reactions in the C₂H₂/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 H₂CO 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 W.D. Watson
- The Formation of Hydrocarbons and Iron Hydrides on Cold Interstellar Grains--Experimental Studies 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 E.M. McCabe
- The Photodissociation of Interstellar CH⁺ 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 H¹³CN, H¹²CN and HCO⁺ J=1-0 Emissions in Orion A A. Hjalmarson

Formaldehyde in Dense Molecular Clouds: H ₂ Densities and (¹² C/ ¹³ C) Ratios	T.L. Wilson
The ¹² C/ ¹³ C Ratio in Interstellar Dark Clouds	W.H. McCutcheon
Isotopic Fractionation in the Interstellar Carbon- Bearing Molecules not Related to Carbon Monoxide	V. Vanýsek
CO Abundance and Isotopic Fractionation in Dark Clouds	P.F. Goldsmith
<i>Invited Talk:</i> Interpretation of Isotopic Abundances in Interstellar Clouds	M. Guélin

SESSION VI Wednesday, 8 August 1979 2030 hrs.

Chairman - G. Winnewisser

<i>Invited Talk:</i> Physical and Dynamical Conditions in Interstellar Clouds	N.J. Evans II
Hydrostatic Models of Molecular Clouds	T. de Jong
Clumpy Molecular Clouds: A Dynamic Model Self- Consistently Regulated by T-Tauri Star Formation	J. Silk
The Large-Scale Distribution of Molecular Clouds in Orion and Monoceros	M. Morris
<i>Invited Talk:</i> Behavior and Significance of Circum- stellar Clouds	B. Zuckerman
Observation of Circumstellar Clouds	P.G. Wannier
Atomic Hydrogen in and Around the Giant Molecular Cloud Near W3 and W4	Y. Fukui
Molecular Clouds Near Supernova Remnants	V.I. Slysh

SESSION VII Thursday, 9 August 1979 0830 hrs.

Chairman - T. Gold

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

Thursday, 9 August 1979 1930 hrs.

Conference Banquet

Chairman - C.H. Townes

Remarks on behalf of Participants - M. Morimoto

Invited Address - B.J. Bok

SESSION VIII Friday, 10 August 1979 0830 hrs.

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 H₂O 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. Burdjuza
 H₂O Masers

Invited Talk: Interpretation of Circumstellar Masers P. Goldreich
 Λ -Doublet Population Inversion in Collisions of OH, OD,
 CH, CD, and NH⁺ D. Field

Pumping Mechanism of OH Masers A. Omont

SESSION IX Friday, 10 August 1979 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 of Interstellar G.R. Carruthers
 Molecules

Future Spectral Line Research with the VLA K.J. Johnston

New Experimental Possibilities and Future Prospects D.N.B. Hall
 for 1-5 μ m Infrared Spectroscopy of Inter-
 stellar Molecules

New Experimental Possibilities and the Future at C.H. Townes
 Far IR Wavelengths