line and chemical forces. The role of nonclassical conformations is important for chain termination; this provides some insight for biological analogies. Finally, E. Clementi (G. Donegani Institute, Novara, Italy) described various techniques for calculating the effects of reactivity, solvents, and temperature on proteins and biopolymers.

The activities of the meeting were concluded by P. O. Löwdin (Uppsala University) who will be the local host of the next (1982) Congress in Uppsala. He noted that the traditional approach of quantum chemistry has been to seek an understanding of fundamental principles underlying a particular application in order to extend our knowledge to additional applications. Despite the progress that quantum chemistry has achieved, there is a long way to go before a full understanding of all of chemistry can be reached.

In conjunction with the Kyoto Congress, five satellite meetings were arranged on related but more specialized topics. One was a three-day symposium on Many-Body Theoretical Approaches to Electron Correlation in Molecules, held in Kobe. Attendance was limited to 80 participants, half of whom were from Japan. Eight of the 25 lectures were presented by Japanese scientists. (I presented an invited lecture, "Electron Correlation and Interaction Energies Between Closed Shell Systems Using Many-Body Perturbation Theory"). The meeting was supported by the Chemical Society of Japan and was financially aided by the Yamada Science Foundation and the Commemorative Association for the Japan World Exposition of 1970. The meeting was extremely well organized and offered a stimulating scientific program. Funding was also at a high level. For example, each invited speaker from outside Japan was provided a generous stipend to cover international travel expenses plus room and board at the Inter-University Seminar House of Kansai, the conference residence.

The remaining four meetings were smaller and of two days' duration each. One was held in Nara on Future Aspects of the Education of Theoretical Chemistry in Asia. Another met in Okazaki to discuss Theoretical Aspects of Molecular Interaction and Chemical Reaction. The other two met separately in Kyoto and covered the Design of Inorganic and Organic Materials of Technological Importance and Quantum-Chemical Aspects of Biomolecules—Their Structures and Functions.

An adjunct activity for some of the attendees from outside Japan was an invitation to visit a university or laboratory. (For instance, I was invited to present a seminar, "Electron Correlation in Simple Chemical Systems," at the Department of Materials Science of the University of Electro-Communications in Tokyo.) Such visits provided an excellent way to make closer contact with scientists and their facilities in Japan.

In conclusion, the Third International Congress of Quantum Chemistry and its affiliated meetings were enjoyable and rewarding considering the depth and breadth of the presentations. Of course, the occasion promoted interactions within the international community of scientists but, equally important, it afforded the participants from abroad the opportunity to explore parts of Japan and glimpse its customs and culture.

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DEPARTMENTS

PUBLICATIONS September—December, 1979 (and others from 1979 not previously reported)


J. N. Campbell (JHMI), R. A. Meyer (APL), and R. H. LaMotte (JHMI), "Sensitization of Myelinated Nociceptive Afferents That Innervate Monkey Hand," J. Neurophys. 42, No. 6, pp. 1669-1679.


E. P. Cunningham, "Probability of..."


Presentations

September 1—December 31, 1979 (and others from 1979 not previously reported)


L. Monchick (APL) and J. Schäffer (Max-Planck Inst. Physik und Astrophysik), "Ab Initio Calculations of the Transport Cross-Section of $H_2$," VIIth International Symp. on Molecular Beams, Riva del Garda, Italy, 28 May.


D. M. Silver (APL) and S. Wilson (Daresbury Labs, Warrington, UK), "Universal Basis Sets in Molecular Calculations," American Chemical Society Meeting, Washington, 10 Sep.
The following papers were presented at the American Geophysical Union Fall Meeting, San Francisco, 3–7 Dec:

T. P. Armstrong (Univ. Kansas) and S. M. Krimigis, J. F. Carbery, and R. D. Zwickl (APL), "Hot Plasma Bulk Motions in the Jovian Magnetosphere;"

C. O. Bostrom, S. M. Krimigis, and J. F. Carbery (APL), L. J. Lanzerotti (Bell Labs.), T. P. Armstrong (Univ. Kansas), and G. Gloeckler (Univ. Maryland), "Observation of a Magnetospheric Wind in the Jovian Magnetosphere;"

J. F. Carbery, "Periodicities in the Jovian Magnetosphere: Voyagers 1 and 2;"

R. B. Decker and S. M. Krimigis (APL) and G. Gloeckler (Univ. Maryland), "Energy Spectra and Flux Anisotropies of CIR-Associated <25 keV Ions;"

A. Eisner and H. D. Black, "Precision Orbit Determination With a Small Number of Ground Stations;"

A. Eisner and S. M. Yionoulis, "Long Period Terms in the Upper Atmospheric Air Density;"

G. Gloeckler (Univ. Maryland) and J. F. Carbery, S. M. Krimigis, and R. D. Zwickl (APL), "Hot Plasma in the Jovian Magnetosphere;"

A. D. Goldfinger, "Refraction of Microwave Signals by Water Vapor;"

D. C. Hamilton and G. Gloeckler (Univ. Maryland) and S. M. Krimigis (APL), "Charged Particle Composition in Jupiter's Magnetosphere;"

E. P. Keath, S. M. Krimigis, and J. F. Carbery (APL), W. I. Axford (Max-Planck Inst. Aeronomie), and L. J. Lanzerotti (Bell Labs.), "Evidence for an Inner Jovian Plasmasphere Boundary;"

S. M. Krimigis and R. D. Zwickl (APL), L. J. Lanzerotti (Bell Labs.), and T. P. Armstrong (Univ. Kansas), "Magnetospheric, Heavy Ion Plasma Beam Observed Near Jovian Magnetosphere Boundary by Voyager 2;"

L. J. Lanzerotti (Bell Labs.), S. M. Krimigis and E. P. Keath (APL), and N. F. Ness, L. F. Burlaga, and K. W. Behannon (NASA/GSFC), "Energetics of the Jovian Plasma Sheet;"


C.-I. Meng and J. F. Carbery (APL), S.-I. Akasofu (Univ. Alaska), J. P. Sullivan (M.I.T.), and R. P. Leping (NASA/GSFC), "Association of the AE-Index with the Solar Wind Poynting Flux Incident on the Magnetosheath;"

D. G. Mitchell and E. C. Roeflo, "\[> 50 \text{ keV} \text{ ion Events Upstream of the Earth's Bow Shock.} 1. \text{ Dependence on Shock Parameters}];"

M. Paonessa, S. Brandon, J. Nonnast, and T. P. Armstrong (Univ. Kansas) and J. W. Kohl (APL), "Energy and Species Dependence of Charged Particle Absorption by Io and Europa;"

V. L. Piscance and S. M. Yionoulis, "Low-Low GRASSAT Simulation Results;"

E. C. Roeflo and D. G. Mitchell (APL) and R. P. Leping (NASA/GSFC), "\[> 50 \text{ keV} \text{ ion Events Upstream of the Earth's Bow Shock.} 2. \text{ Association with IMF Fluctuations}];"

N. A. Saflekos (APL), B. M. Shuman (AF Geophysics Lab.), and T. A. Potemra (APL), "Dual Satellite Observations of Geomagnetic Disturbances in Auroral Regions;"

L. J. Zanetti and T. A. Potemra (APL) and J. P. Doering and J. S. Lee (The Johns Hopkins Univ.), "Charybdis of Low Energy Electron Precipitation;"

R. D. Zwickl and S. M. Krimigis (APL), T. P. Armstrong (Univ. Kansas), and G. Gloeckler and D. C. Hamilton (Univ. Maryland), "Energetic Ion Events of Jovian Origin;"

The following papers were presented at the 16th International Cosmic Ray Conference, Kyoto, 6–18 Aug:


R. E. Gold and E. C. Roeflo, "Energetic Particle Recurrence and Escape During Solar Cycle 20;"


Infrared Radiation: Rabbit Endothelial Damage Thresholds;"

R. A. Farrell, R. C. McCally, and C. B. Bargeron, "Corneal Damage from Exposure to Infrared Radiation: Calculated and Measured Endothelial Temperature Histories;"

R. L. McCally and R. A. Farrell, "Structural Implications of Small Angle Light Scattering from Rabbit and Bovine Corneas;"

The following papers were presented at the American Physical Society Meeting, Chicago, 19–23 Mar:

M. E. Hawley, W. A. Bryden, A. N. Block, and D. O. Cowan (The Johns Hopkins Univ.), T. O. Poehler (APL), and J. P. Stokes (The Johns Hopkins Univ.), "Mott Transition and Magnetic Properties of HMTSF(TCNQ)_{2}(TCNQF_{4})_{x};"

A. N. Jette and F. J. Adrian, "Structure of the V-center in LiF;"

R. L. McCally and E. A. Michelson (APL) and E. S. Margolis (JHMI), "Photon Correlation Spectroscopy Investigations of Human Serum Low Density Lipoproteins;"

R. S. Potember and T. O. Poehler (APL) and D. O. Cowan (The Johns Hopkins Univ.), "Switching and Memory in Organic Semiconductor Thin Film;"

J. P. Stokes, A. N. Block, W. A. Bryden, D. O. Cowan, and M. E. Hawley (The Johns Hopkins Univ.) and T. O. Poehler (APL), "Mott Transition and Conductivity in the Organic Solid Solutions HMTSF(TCNQ)_{2}(TCNQF_{4})_{x};"

APL COLLOQUIA

November – December, 1979


Nov. 30 – "Chaotic Dynamics," by J. A. Yorke, Univ. of Maryland.

Dec. 7 – "Structure Determination by X-Ray Absorption (EXAFS),," by E. A. Stern, Univ. of Washington.


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