

COMMISSION 14:
ATOMIC AND MOLECULAR DATA
(DONNEES ATOMIQUES ET MOLECULAIRES)

Summary of the Commission Activities and Business meetings on August 18 and 24, 1994:

Commission 14 supported two Joint Discussions at the XXIInd General Assembly, and some commission members were strongly involved in organizing these meetings.

Joint Discussion 6, a one day meeting, was on the subject "Sun and Heliosphere - Challenges for Solar Terrestrial Physics, Magneto and Hydrodynamics". This JD was also supported by Commissions 5 (Documentation and astronomical data), 9 (Instruments and techniques), 10 (Solar activity), 12 (Solar radiation and structure), 44 (Astronomy from space) and 49 (High energy astrophysics). M.C.E. Huber, a member of Commission 14, was chairperson of the scientific organizing committee. JD 6 featured several high-interest topics in solar physics and included an invited speaker from the atomic physics community.

Joint Discussion 16, a 1 1/2 day meeting, was on the subject "Astrophysical Applications of Powerful New Atomic Databases". This subject was very timely, since several comprehensive databases have been recently completed which contain atomic data involving several millions of spectral lines. These greatly improved atomic data open new avenues for astrophysics and also allow the treatment of existing problems in much greater detail. Speakers from the atomic physics community described the sophisticated new atomic databases, while astrophysicists described first applications to astrophysical problems. Altogether, 21 invited talks and 37 poster papers were presented. This Joint Discussion was co-sponsored by Commissions 27 (Variable Stars), 29 (Stellar Spectra), 35 (Stellar Constitution) and 36 (Theory of Stellar Atmospheres). Two Commission 14 members, S.J. Adelman and W. L. Wiese, served as the co-chairmen.

More detailed reviews of JD 6 and JD 16 containing the abstracts of most invited talks are given in *Highlights of Astronomy*, Vol. 10.

In the two business meetings of the commission, the main topic was the impending restructuring of the IAU. Since preliminary plans had been announced already at the previous General Assembly, the commission president about a year ago sent a questionnaire to the commission membership which listed various options for the future status of Commission 14, in order to determine if there was a clear preference. Roughly a quarter of the commission members responded, and many provided detailed thoughtful comments. The large majority of the membership preferred to continue the commission as a separate entity. This is principally because the commission fulfills a broad service role in many areas of astronomy and astrophysics. This interdisciplinary function is best preserved by keeping the commission independent, and in this way making its resources readily available to the whole astrophysical community.

In the first business meeting of the commission, this option as well as others proposed to the commission were discussed in detail, and the attending members again expressed their strong preference for an independent Commission, largely on the arguments given above. The commission president communicated these thoughts to members of the IAU Executive Committee (EC) during the General Assembly, and the EC then proposed to let Commission 14 retain its independent status by making it a Commission of the EC, reporting directly to the General Secretary.

In a second business meeting of the commission on August 24, this change was approved by the attending commission members. Another matter taken up by the commission membership was a proposal, first discussed at the preceding GA, to restructure the organizing committee of Commission 14, and the following arrangement was approved:

The organizing committee will have, in addition to the President and Vice President, a maximum size of 9 members, one of them being the outgoing commission president, who will serve on the committee for 3 years after the end of his/her presidency.

The other committee members will serve for six years, and their appointments will be staggered in time, so that one half of the organizing committee will be newly elected at each General Assembly.

Membership of the Commission:

New Members:

E.F. van Dishoeck, N. Grevesse, U.G. Jorgenson, S. Langhoff, A.K. Pradhan, G. Stark, K. Yoshino.

Death:

Sir David R. Bates, Prof. Emer., University of Belfast

President, Vice-President and Organizing Committee for the triennium 1994-1997:

President: W.H. Parkinson

Vice-President: F. Rostas

Members of the Organizing Committee: S. Adelman, J. Dubau, N. Grevesse, S. Johansson, U. Jorgenson, H. Mason, P. Smith, L. Tchang-Brillet & W. Wiese.

Working Groups:

All working groups were retained, but a change was made for the chairperson of the "Molecular Structures and Transition data" working group. W. H. Parkinson resigned and E. van Dishoeck accepted this position. The working groups and the new chairpersons for the period 1994-1997 are as follows:

1. Atomic spectra and wavelengths standards (W.C. Martin)
2. Atomic transition probabilities (W.L. Wiese)
3. Collision processes (J.W. Gallagher)
4. Line broadening (N. Feautrier)
5. Molecular structure and transition data (E. van Dishoeck)
6. Molecular reactions on solid surfaces (S. Leach)