

COMMISSION No. 44

ASTRONOMY FROM SPACE (L'ASTRONOMIE A PARTIR DE L'ESPACE)

Report of Meetings

PRESIDENT: Y. Kondo

SECRETARY: A. Michalitsianos

I. BUSINESS SESSION

(A) New Officers. At the business session on August 4, the following new officers were elected for the next triennial period.

President - E. B. Jenkins  
Vice President - J. Trümper  
Secretary - A. Michalitsianos

Organizing Committee: B.F. Burke, G.W. Clark, G.G. Fazio, J.B. Hutchings, S.D. Jordan, Y. Kondo (Past President), K.A. Pounds (Past Vice President), J. Rahe, B.D. Savage, G.B. Sholomitsky, R.A. Sunyaev, Y. Tanaka, W. Wamsteker.

(B) New Members: The following individuals have been elected as new members of our Commission: I.D. Ahmad, C.L. Bennett, A. Brown, J. Butler, P.S. Butterworth, K.G. Carpenter, F. Codova, M. Elvis, U.O. Fisk, B.H. Foing, M.G. Hauser, C.L. Imhoff, K.V.K. Iyengar, K.S. Long, J.C. Mather, J. Mead, F. Melia, C.A. Norman, G.K.H. Oertel, P.M. Perry, J. Pipher, G. Pizzichini, R.Z. Sagdeev, J. Sahade, W. Sanders, K.-H. Schmidt, C. Sheffield, P.L. Smith, G. Sonneborn, J. E. Steiner, M. Valtonen, O. Vilhu.

(C) Working Groups. Three proposals for working groups were submitted to Commission 44. Two were accepted and the third was declined.

(1) Working Group on multi-wavelength astrophysics was established as a multi-Commission Working Group. The members of this working group are J. Bregman, J. Butler, F. Cordova, T. Courvoisier (Chairman), B. Foing, M. Malkan, C. Sterken and F. Verbunt. J. Breggsacher, G. Riegler and N. White are advisors to the Working Group.

(2) A proposal by Harlan Smith for "Lunar-Based Astronomy" Working Group was accepted. H. Smith was designated as its chairman.

(3) A proposal to transfer a Working Group on "Space Schmidt Survey" from Commission 28 was turned down. If modifications are made to the name and the charter of the Working Group so that they will become consistent with the basic policies of Commission 44, which require avoiding involvement in a lobbying effort for a space experiment, they may submit another proposal at the next meeting of Commission 44 in 1991.

(D) Sponsorship of meetings.

(1) Commission 44 is the principal sponsor of IAU Colloquium No. 123 on "Observatories in Earth Orbit and Beyond"; Commissions 9 and 48 are cosponsors. It is planned for the autumn of 1989 at Goddard Space Flight Center.

(2) Commission 44 is cosponsoring IAU Colloquium No. 139 on "Galactic and Extragalactic Radiation", which is to be held in Heidelberg, Germany 12-16 June 1989.

(3) Commission 44 is also sponsoring a colloquium on "Extreme UV Astronomy", to be held at Berkeley on 19-20 January 1989.

(II) Science Sessions.

Commission 44 cosponsored several Joint Discussions and Joint Meetings at the XXth IAU General Assembly in Baltimore. Since they are to be reported elsewhere in this volume, we will describe those science sessions for which our Commission was the primary sponsor.

(A) Future Space Programs. This joint meeting with Commission 9 was organized and chaired by Y. Kondo and was held on August 8. The invited speakers were C. Pellerin of NASA, R. Bonnet of ESA, Y. Tanaka of Japan and N. Kardashev of the U.S.S.R., who described the future space programs of their respective country or organization.

(1) Pellerin discussed NASA's plans for supporting astrophysical data analysis program using the results from the ongoing IUE (ultraviolet) and the projected COBE (infrared), Hubble Space Telescope (ultraviolet, visible and infrared), ROSAT (X-ray), GRO (gamma-ray), EUVE (extreme ultraviolet), IRTS (infrared), ISO (infrared), Astro-D (X-ray), XTE (X-ray) and AXAF (X-ray) astronomical satellites.

(2) Bonnet gave a summary of ESA's plans for astronomical satellites, including the so-called "Horizon 2000" program. Among the approved near-term programs are IUE, Giotto Extended Mission (comets), Hipparcos (astrometry), HST (with NASA), Ulysses (solar polar mission with NASA), and ISO (possibly with NASA, Japan and Australia). The long-term programs, known also as the "Horizon 2000" programs, consist of SOHO (solar heliosphere observatory with NASA), Cluster (space plasma physics mission with NASA), XMM (X-ray multi-mirror), FIRST (sub-millimeter spectroscopy), and CNSR (comet nucleus sample return mission with NASA). Medium-size projects under consideration include GRASP (gamma-ray), Lyman (far and extreme ultraviolet satellite probably with NASA and Canada), Quasat (radio interferometry mission with NASA and Canadian participation), Cassini (interplanetary mission to Saturn with NASA), and Vesta (interplanetary mission to small bodies - USSR, CNES and NASA collaboration).

(3) Tanaka described the ongoing X-ray satellite Ginga and discussed Japan's plans for Solar A (X-ray), SFU (multi-purpose space flyer unit), IRTS (infrared), ASTRO-D (X-ray), and Space VLBI (long base-line interferometry) missions.

(4) Kardashev reviewed U.S.S.R.'s future astronomical satellite programs consisting of Radioastron, RELICT 2 (infrared), AELITA (infrared), SUVT (ultraviolet), GRANAT (X-ray and gamma-ray), Spectrum-X (X-ray and gamma-ray), Gamma-1 (gamma-ray) and XG100 (a 100 square meter telescope planned for the year 2000).

(B) Highlights of the IUE Satellite Observatory. This science session, which was held to commemorate the first 10 years of the successful guest observer program of the IUE, was organized by Y. Kondo and W. Wamsteker and was held on August 3. The meeting was chaired by Kondo and B. Burke. The invited speakers and their topics were: W. Moos on Io Torus; R. Wagener on Upper Atmospheres of the Planets; C. la Dous on Cataclysmic Variables; E. Guinan on interacting binaries; P. Judge on stellar chromospheres; W. R. Hamman on W-R star atmospheres; M. Elvis on active galactic nuclei; and R. Chevalier on galactic haloes.

(C) Infrared Astronomy. This joint science session with Commission 9 was organized by J. Pipher, co-chaired by Pipher and M. Werner, and was held on August 6. The invited speakers and their topics were G. Neugebauer - introduction; E. Dwek, P. Solomon and F. Boulanger on IRAS; M. Harwit on ISO; G. Fazio on SIRTIF; J. Mather on COBE; H. Okuda on IRTS; N. Kardashev on RELICT 2 and AELITA; D. Downes on FIRST/LDR; and M. Longair - summary.

(D) Far and Extreme Ultraviolet Astronomy. This joint science session with Commission 9 was organized and chaired by A. Michalitsianos and was held on August 9. Invited speakers and their topics were: H. Nussbaumer on stellar spectroscopy in the far and extreme UV; D. York on the physics of the interstellar and intergalactic medium; and J. Krolik on extragalactic astrophysics. The meeting was closed with a panel discussion, chaired by F. Bruhweiler, on the importance of extreme and far UV observations to astrophysics.

(E) Gamma-ray and X-ray astronomy. This joint science session with Commission 9 was organized and chaired by Y. Tanaka and was held on August 9. The invited speakers and their topics were: R. Remillard on the nature of the hard X-ray sources from HEAO-1 survey; G. Fabiano on X-ray observations of normal galaxies; Y. Tanaka on the results from Ginga observations; N. V. D. Klis on quasi-periodic oscillations in compact X-ray sources; R. Burg on cosmic X-ray background; R. Pallavicini on X-ray study of stars; and K. Hurley on gamma-ray bursts.

(F) Radio interferometry from space. This joint science session with Commission 40 was organized and chaired by B. Burker and Y. Kondo. The invited speakers and their topics were: R. Linfield on TDRSS experiment; N. Kardashev on Radioastron; N. Kaifu on VSOP; R. Schilizzi on Quasat status; D. Murphy on orbital studies; K. Weiler on prospects for low-frequency space VLBI; A. Ferrari - a theorist's view; A. Baudry and N. Kardashev - speculations for the future.