THE SIDEREAL TIMES

NEWSLETTER OF THE ALBUQUERQUE ASTRONOMERS

PRESIDENT: WYNNE WOOD  APRIL 1978  EDITOR: DEREK WALLENTINSEN

OUR NEXT MEETING will be at the VLA west of Socorro on Saturday, April 7. We will meet at the postal unit at Minrock at 8:15 AM and proceed to the VLA as a group, arriving before noon. Our host, Dr. Robert H. Fjellman of the National Radio Astronomy Observatory, will then give us the deluxe tour.

Dr. Fjellman is a co-discoverer of the extragalactic nature of the panspectral source 4U 0241-62. This object, probably a quasar or Seyfert galaxy nucleus, was detected by him on December 5, 1977 using 10 VLA antennas. (It has also been detected in visual, x- and possibly gamma radiation by others.) We will return in the early afternoon.

Be sure to bring a sack lunch. During lunch, we will hold a mini-meeting. If you have signed up for the trip but can't come, be sure to let either Merv Seay (294-4535) or Wynne Wood (296-9203) know beforehand, so we can have a good idea of how many are coming. We are hoping for a large turnout. Several dozen members and guests had signed up as of this writing.

AT OUR LAST MEETING, Merv reported progress on the crate for the club telescope. When the telescope is back in commission, we will have a new eyepiece for it. Edmund Scientific Co. is offering the club a free 28mm Kellner eyepiece for our comments on it (for a promotional effort, I suspect). It will be available at a future meeting for members to assess at the after-meeting star party. Edmund is also supplying a list of AL clubs to purchasers of their telescopes to promote amateur astronomy.

Derek mentioned that some clubs in California and the western part of the country were holding public displays of amateur astronomy activities on March 18, dubbed Astronomy Day, and asked if the club was interested in a local event. No active interest was shown by those present.

The question of continued AL membership was discussed (see enclosure). Further action on this is now dependent on the outcome of the affiliation statement vote.

Grover Hughes then gave an interesting presentation (with slides and informative handouts) of his satellite tracking work out at Sandia, using a Celestron 14 telescope to take positional photographs of geostationary satellites.

CLUB QUESTIONNAIRE ENCLOSED. All members are urged to fill out and return the accompanying questionnaire. It is intended to assess the interests of the members, and the resources available to the club. Additionally, the IAU Circulaires calling list is being updated. You must fill out the appropriate spaces on the questionnaire to be carried on the list, whether you are on it presently or not. THANK YOU!

WELCOME TO O. Gene Fates, 1828 Madeira Drive NE 87110. 256-0152.


Reviewed by Derek Wallentinsen

These nine well-illustrated pamphlets, each about 40 pages long, give clear and concise descriptions of the experiments performed by the American and Russian crews of the Apollo-Soyuz Test Project in Earth orbit in July (over)
1976. Each covers a specific topic or category of experiments:

1. The Flight
2. X-Rays, Gamma Rays
3. Sun, Stars, In Between
4. Gravitational Field
5. The Earth from Orbit
6. Cosmic Ray Dosage
7. Biology in Zero-G
8. Zero-G Technology
9. General Science

Intended as curriculum supplements for high schools and colleges (there are pertinent references to standard texts), these can be used as teaching aids to present some of the mathematical, physical, and biological concepts being explored or utilized in current scientific research. Each pamphlet is divided into three or more sections, explaining the purpose, design, and execution of the experiments—the scientific method. Necessary basic relations (e.g., Newton's Laws) are briefly stated, backed by the fundamental equations, given without proof or detailed mathematical derivation. Questions for discussion by a class (or self-test, answers are given at the back of each pamphlet), such as Will a pendulum on Pike's Peak run faster or slower than one at sea level?, round out each section. Appendices of SI (International System) units and a glossary end each pamphlet.

The series does make for interesting perusal by the general reader. One learns (Pamphlet 6) about the simple explanation for the seemingly enigmatic "light flashes," first seen by Edwin "Buzz" Aldrin on the Apollo 11 mission, caused by cosmic rays (ionization and the decelerative "shedding" of Cerenkov radiation) and predicted for spaceflight as early as 1956 by physicist J.A. Tobias. Zero-g crystals, alloys, and materials formation, such as eutectics, foams, and spheroidization, described in No. 8, are seen to have potentially great advantages over those produced in one-g. Much work remains to be done, but it is clear that zero-g technology will pay many of the bills for space travel in profits and benefits in electronics, metallurgy, and chemistry. Zero-g biology (No. 7) will do likewise. Continued work in both fields is sure to become an important part of the Space Shuttle's schedule.

There are a few errors and gaps in explanation. In The Flight, the numerical constant in Kepler's Third Law is incorrectly given as 8 instead of 4. An important lapse occurs in Problem 14 in X-Rays, Gamma Rays, involving the Doppler effect: It has several significant errors. The description of free-fall (zero-g, weightlessness), which is given in several pamphlets, is less clear than it could be. Several units of measure are introduced in the series with no definition. The Earth's equatorial radius rather than mean radius is used, but this is not stated. Airglow, mentioned at least twice, is never explained. In Biology in Zero-G, Table 2.1 says that all of the fish in compartment 4 died, but the reader is left empty-handed as to the reason.

However, this series is excellent for those desiring more information on manned missions science than is given in popular books, but not the highly technical details presented in scientific papers. Pedagogically, it would serve its designed purpose of a course supplement for "case in point" examples of scientific ideas.

THANKS TO Wilfred Pedroncelli for the membership lists, and to the contributors to the IAU Circulars payments at the last two meetings.

AL SOUTHWEST REGION CONVENTION will be held July 14-16 in Shreveport, Louisiana. For more information, please call Derek (504-961-0931).

MISCELLANY. Ads—a reminder and invitation to members for this club service. For the exchange of astronomically related equipment, books, etc. For potential members or renewals, the membership rates: $10.50/year with Sky and Telescope, 4.50 without. These rates will increase in June, as noted previously.