



LECKRONE TO DESCRIBE SPACE-TELESCOPE INSTRUMENTATION



DR. LECKRONE

Dr. David S. Leckrone, Scientific Instruments Scientist for NASA's Space Telescope project, will open the National Capital Astronomers 1981-82 lecture series on September 5. He will describe the details and parameters of the five instruments in the focal plane of the 2.4-m Space Telescope to be launched by the Space Shuttle in 1985.

Designed for performance near the diffraction limit for the aperture, the telescope will carry a faint-object camera for UV and blue, a wide-field camera for far UV to far IR, two spectrometers — one high resolution, one high throughput, and one very-high-speed single-channel photometer which can also be used for calibration and galactic background. The Shuttle will facilitate maintenance in orbit or occasional return to earth for more extensive work.

David S. Leckrone received his B.S. in physics from Purdue University in 1964 and the M. A. (1967) and Ph. D. (1969) from the University of California.

Dr. Leckrone is an astrophysicist at Goddard Space Flight Center. His specialties include space astronomy with the OAO-2, Copernicus, and IUE observatories, spectroscopy of early-type stars, stellar atmospheres and the abundances of chemical elements. He directed the scientific definition studies of candidate astronomical payloads for Spacelab. He is now providing scientific oversight of the designs and performance characteristics of the Space Telescope instrumentation.

SEPTEMBER CALENDAR — *The out is welcome*

Tuesday, September 1, 8, 15, 22, 29, 7:30 PM — Telescope-making classes at the Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.

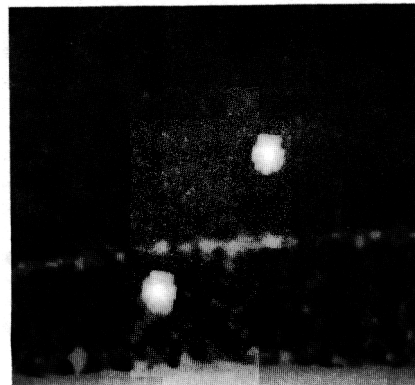
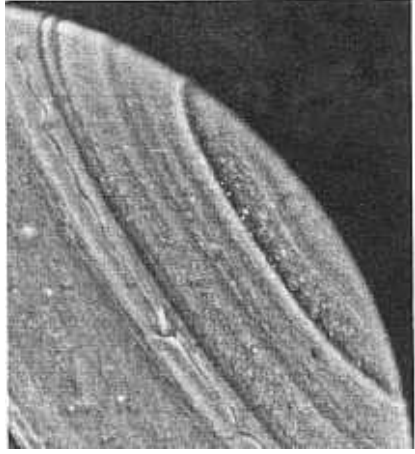
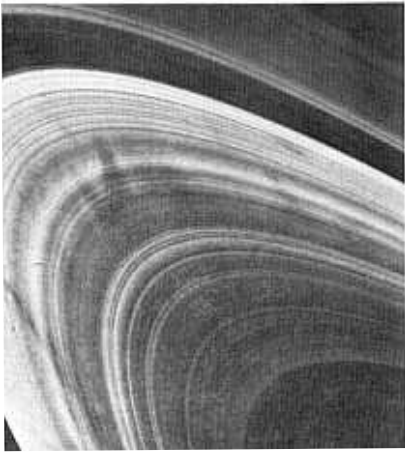
Friday, September 4, 11, 18, 25, 7:30 PM — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall.

Friday, September 4, 18, 25, 8:30 PM — Use the NCA 14-inch telescope with Bob Bolster, 6007 Ridgeview Drive, south of Alexandria off Franconia Road between Telegraph Road and Rose Hill Drive. Call Bob at 960-9126.

Saturday, September 5, 6:15 PM — Dinner with the speaker at the Thai Room II, 527 13th Street, NW. Reservations unnecessary.

Saturday, September 5, 8:15 PM — NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Dr. Leckrone will speak.

Saturday, September 19, 8:30 PM — *Exploring the Sky*, presented jointly by NCA and the National Park Service. Glover Road south of Military Road, NW, near Rock Creek Nature Center. Information: Bob McCracken, 229-8321.



OCCULTATION EXPEDITIONS PLANNED

Dr. David Dunham is organizing observers for the following grazing lunar occultations. For further information call Dave at 585-0989.

Date	UT Time	Place	Vis Mag	Pent Sunitit	Cusp Angle	Min Aper
08-0	-81 01:00	Surf City, NJ (and MD)	6.2	64	3N	5 cm
08-08-81	02:02	Surf City, NJ (and DC)	6.6	64	3N	5 cm
08-18-81	04:05	Hagerstown, MD	7.6	78	12N	15 cm
08-19-81	09:10	Hyattstown, MD	7.9	66	12N	15 cm
08-20-81	06:10	Stormont, VA	6.8	56	13N	5 cm
08-21-81	10:04	Urbana, MD	8.2	43	9N	8 cm
08-22-81	06:14	Germantown, MD	8.7	33	11N	20 cm

NOTE SEPTEMBER NCA LECTURE MEETING DATE

The first meeting of the season will be held on Saturday, September 5, not the 12th as previously announced. This is a departure from our usual custom of avoiding Labor Day weekend.

VOYAGER II SATURN APPROACH — SOME HIGHLIGHTS

As we watched the slow-scan paint progressively finer details on the NASA monitor, we saw Voyager II answer many of the questions raised by previous probes. While definitive results, undoubtedly including many new questions, are encoded in instrumental data still to be reduced, the images themselves provided a succession of revealing highlights. Some are represented by these NASA photographs.

Many clear images of the radial B-ring features were obtained from which rotational measurements can be made. Limited previous data indicated that their rotation is intermediate between solid-body and Keplerian. It has been conjectured that they are clouds of extremely fine particles charged by solar irradiation and magnetically levitated out of the ring plane. A time-lapse film is being prepared.

In earlier images, the apparent lack of Jupiter-like disk features suggested an overlying aerosol layer. These new images show complex detail all the way to the polar regions; cloud bands sharply defined at the limb indicate the absence of an aerosol layer above the cloud layer. Ovals mark energy transfer between adjacent contrarotational wind streams.

A segment of the F ring is shown here with the two shepherding satellites very near conjunction. Their gravitational perturbations appear to account for the twisted appearance of the F ring. Their orbits are not quite co-planar.

The roughly cylindrical, or potato-shaped satellite, Hyperion, was the first to be discovered in the United States (Bond, 1848). The dynamically unstable alignment of its major axis suggests a recent impact, perhaps accounting for the large crater visible in the photo.

The heavily cratered, icy Iapetus is the outermost of Saturn's large satellites. In synchronous rotation, Iapetus is noted for the sharp dichotomy in its albedo. The leading hemisphere is very dark, the following, bright. It may have swept up some dark material which covers its icy crust.

The rings' density pattern was traced by their occultation of Delta Scorpii, using the photopolarimeter. Using NASA's remarkable remote-manipulation techniques, this instrument was said to be virtually rebuilt during the trip from Jupiter to Saturn.

Voyager II crossed the ring plane on the other side of Saturn while hidden from the Earth. Upon reappearance of the craft it was found that the scan platform was jammed. At this writing, thanks again to NASA's "long-distance road service," it seems to have been repaired, at least with partial success.

Saturn has now gravitationally refueled Voyager II. Onward to Uranus!

EXCERPTS FROM THE IAU CIRCULARS

1. May 21 — M. Oda and the Hakucho Team reported that the spacecraft had detected X-ray bursts from the galactic bulge source GX 17+2. A weaker burst from that area had been detected by the Einstein Observatory in March.

2. May 28 — H. E. Schuster, European Southern Observatory, recovered minor planet (843) Nicolaiia, lost since its discovery in 1916. It was located 75' from the position predicted by L. D. Schmadel, Astronomisches Rechen-Institut.

3. June 29 — L. E. Gonzalez, University of Chile, discovered a comet (1981g) of 15th magnitude in Phoenix.

4. August 2 — Paradijs, Pedersen, and Lewin detected X-ray burst activity from AqlX-1. The optical counterpart, V1333 Aquilae, was observed with the 1.5-m Danish telescope at La Silla, and a 15-second optical burst 20 percent above the normal brightness was recorded, the first seen from this object.

NOTE: THIS MAY BE YOUR LAST *STAR DUST*.

At the beginning of our fiscal year and renewal time, the membership list and the *Star Dust* mailing list are being updated. If you have overlooked your membership renewal, request a form from the Secretary, Nancy L. Hueper, 5501 Christy Drive, Bethesda, Maryland 20816, (301) 229-7328.

FOR SALE

Cave Astrola, 1973 model A, F/8. 8x50 finder, 3 orthoscopic oculars: 4-, 12.5-, and 25-mm, clock drive and dual-axis slow-motion controls, 12vdc or 115vac. Six-inch setting circles, camera adaptor, six Optica BC Spectrol filters in threaded, nesting mounts, can be adapted to oculars, but not a direct fit. Heavy, stable mount with added removable wheels. Negotiable. Mark Meadows, Annandale, Virginia. (703) 256-7524.

Cave Astrola, 8-inch F/8, pedestal mounted, essentially new. Clock drive, Barlow lens, two oculars: 6- and 16-mm, 6x30 finder. \$825.00. Tom Keifer, (703) 281-2909 evenings.

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* **S T A R D U S T**



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