



## LEIDECKER TO DISCLOSE NEW VIEWS ON GRAVITATION



DR. LEIDECKER

Dr. Henning Leidecker, Associate Professor of Physics at American University and a past President of National Capital Astronomers, will speak on the evolution of ideas on gravitation from antiquity to the present. He will present current work about to be published by one of his colleagues, Joseph Goldman, on the subject of black holes: Black holes do not exist!

He will present current work about to be published by one of his colleagues, Joseph Goldman, on the subject of black holes: Black holes do not exist! He will discuss the use of the solar system for testing Newton's ideas, Einstein's radically different program for gravitation, the shared-particle (also called exchange-particle) theory — the modern theory or gravitons, Unified theories and super-unified theories.

As examples, he will apply the theory to globular-cluster dynamics and show the number of binaries expected in such a cluster. The theory also predicts satellites of asteroids. He will show how cluster dynamics can now easily be modeled with home computers.

Henning Leidecker received his doctorate in physics from the Catholic University of America in 1968 with a dissertation on dielectric behaviors of linear polymers. He worked at Bell Telephone Laboratories at Murray Hill on liquid crystals, consulted at NIH on thermal physics of blood-artery interfaces. He has been a professor of physics at American University since 1967. He is a member of the American Association for the Advancement of Science, the American Physical Society, and was President of National Capital Astronomers in 1974-75.

### APRIL CALENDAR — *The public is welcome.*

Friday, April 1, 8, 15, 22, 29, 7:30 pm — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.

Friday, April 1, 8:00 pm — NCA 14-inch telescope open night 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, April 2, 2:00 pm — NCA tours old Naval Observatory. See page 31.

Saturday, April 2, 6:15 pm — Dinner with the speaker at the Thai Room II, 527 13th Street, NW. Reservations unnecessary.

Saturday, April 2, 8:15 pm — NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Dr. Leidecker speaks.

Friday, April 15, 8:00 pm — NCA 14-inch telescope open night with Jim Trexler, 5609 Ottawa Street, Oxon Hill, Maryland. Call Jim at 839-3490.

Saturday, April 16, 8:00 pm — Discussion group at the Department of Commerce, Conference Room D: Final plans for Astronomy Day at Naval Observatory.

Saturday, April 23, 10:00 am to 4:00 pm — Astronomy Day open house at the U. S. Naval Observatory with NCA participation.

## MARCH LECTURE

Mr. Jan K. Herman, Historian of the Naval Medical Command, spoke on the history of the original U. S. Naval Observatory at the March meeting of National Capital Astronomers. The Command now occupies the site on a hilltop in Foggy Bottom.

The Observatory, completed in 1844, was moved to the present site on Massachusetts Avenue in 1893. The Naval Museum of Hygiene next occupied the building until 1905, followed by the Naval Medical School. About 1908 new buildings on the hill became the site of the Washington Naval Hospital until 1942, when the hospital was moved to the present Bethesda, Maryland location as the National Naval Medical Center.

Those 49 years of the old Naval Observatory were important not only to astronomy, but also to the history of American science.

John Quincy Adams recognized the need for American scientific establishments. In his 1825 State of the Union address he proposed a National Observatory, noting that Europe had more than 130 of these "lighthouses of the sky," while the whole American hemisphere had not one.

After his election, his narrow defeat of Andrew Jackson left much bitterness among the Jacksonian Democrats who controlled Congress. He was forced to abandon his observatory plans. The Navy, however, needed an establishment to provide a time service, rate chronometers, update charts, and provide a repository for them. By calling it a "Depot of Charts and Instruments" the Navy got the legislation!

A young Navy lieutenant, James Melville Gillis, whose 1842 observations of Encke's Comet got the attention of Congress, was appropriated \$25,000 to build the establishment. Gillis designed the building, completed in 1844, which was subsequently little changed. Herman showed Gillis' original plans which were discovered just three weeks before the lecture.

The 50-foot square central building housed a 9.6-inch equatorial refractor under a copper-clad wooden dome which was rotated by hand on six cannon balls. The east and west wings contained transit instruments and a mural circle.

Gillis expected to be the Observatory's first superintendent; instead, an oceanographer, Matthew Fontaine Maury, was appointed. Maury was a controversial figure with strong Southern and pro-slavery leanings. His tenure was characterized by ill feelings, much oceanography, and little astronomy. A competent, pioneer oceanographer, however, he gained world fame in his field.

In 1861 Maury went south to the Confederate Navy. Finally, after 17 years, Gillis was appointed to the post. Unfortunately, the Civil War had begun, and priorities were more than ever on charts and instrument ratings rather than astronomy.

Gillis assembled a staff of competent astronomers, including Simon Newcomb and Asaph Hall. The establishment was now called the Naval Observatory.

Gillis died in 1865. He was succeeded by Charles Davis, who developed the Observatory to a first-class scientific institution. He recognized the need for expeditions, and sent teams worldwide for eclipse and transit observations.

Herman showed recently found plates from an 1874 Venus transit expedition to measure the astronomical unit.

Benjamin Franklin Sands followed Davis as Superintendent. Persuaded by Simon Newcomb, he contracted Alvan Clark & Sons to construct the largest telescope in the world — the 26-inch refractor still in use at the present site. A new south wing housed the instrument. The drive was powered by city water.

Using the new refractor, Asaph Hall discovered the two Martian satellites in 1877 — a discovery that led to much jealousy and bitterness among the staff.

Every member of the staff contracted malaria from the mosquitoes breeding in the nearby marsh, and several died. The fog from the Potomac interfered with observations, and more space was needed. In 1893 the Observatory was moved to the present site on Massachusetts Avenue.

Mr. Herman's talk included much human interest and many colorful details not covered here; the lecture is available on tape cassette for those having a further interest.

## OCCULTATION EXPEDITIONS PLANNED

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

| UT          | Place | Vis                 | Pcnt      | Cusp  | Min         |       |
|-------------|-------|---------------------|-----------|-------|-------------|-------|
| Date        | Time  | Mag                 | Sunlit    | Angle | Aper        |       |
| 04-19-83    | 00:17 | Simpsonville, MD    | 7.4       | 34    | -1S         | 8 cm  |
| 04-19-83    | 00:55 | Havre de Grace, MD  | 8.6       | 35    | 2N          | 20 cm |
| 04-19-83    | 04:04 | Ellicott City, MD   | 8.8       | 36    | 3N          | 20 cm |
| 04-29-83    | 06:49 | Harris Crossrds, NC | 2.9       | 81    | 16S         | 5 cm  |
| 04-29-83    | 06:49 | Cary, NC            | 5.1       | 95    | 16S         | 10 cm |
| ASTEROIDAL: |       | Star Mag            | Delta Mag | Name  |             |       |
| 04-26-83    | 04:54 | Great Lakes Area?   | 10.6      | 1.2   | (52) Europa | 20 cm |

## DISCUSSION GROUP 16 APRIL: ASTRONOMY DAY FINAL PLANS

On 23 April NCA will again participate in the U. S. Naval Observatory's celebration of Astronomy Day. The Observatory will hold open house from 10:00 am to 4:00 pm. NCA exhibits and demonstrations will assist in introducing the public to astronomy. Plans will be reviewed and filmed at the discussion group at 8:00 pm 16 April at the Department of Commerce, Conference Room D.

## GILFILLAN TO HEAD NCA NOVA PATROL

James Gilfillan has been appointed to organize and lead the NCA Nova Search program. Those interested in participating should contact Jim at 530-0635. The March discussion group served to initiate the program.

## NOMINATING COMMITTEE APPOINTED

A nominating committee, Nancy Hueper, Chair, with Jerry Schnall and Pat Trueblood, has been appointed to propose a slate for the May election. Other candidates may be nominated by petition of 10 full members in good standing, submitted to the Secretary prior to the May election.

## NCA TO TOUR OLD NAVAL OBSERVATORY SATURDAY, 2 APRIL, 2 PM.

Our March speaker, Mr. Jan Herman, will escort NCA members on a tour of the old Naval Observatory at 23rd and E Streets, NW. Enter the north gate on 23rd Street. Tell guard you are on NCA tour. Continue to front door of main building at top of hill. Park in any unreserved space. From the Foggy Bottom Metro Station, walk a few blocks south to the north gate on 23rd Street.

## NCA TO VISIT GREEN BANK AND SUGAR GROVE

On the weekend of 14-15 May, NCA will visit the Navy's Sugar Grove Radio Astronomy Observatory in West Virginia and the National Radio Astronomy Observatory at Green Bank, West Virginia. We will leave Washington Saturday morning and return Sunday evening. Our own Jim Trexler will be our host at Sugar Grove. Further details will follow, or call NCA: (301) 320-3621.

## WALTER SCOTT HOUSTON WAS FIRST

In initiating our search for objects which have been deleted from the RNGC list as "nonexistent," we neglected to credit Scotty with suggesting the search in *Sky and Telescope*, December 1975, page 420, where he also reports that Pat Brennan of Saskatchewan had searched several clusters. Both were credited, however, in our *NCA Catalog of "Nonexistent" Objects*, by James H. Trexler.

## SCHWARTZSCHILD TO SPEAK AT SMITHSONIAN

At 7:30 pm on Wednesday, 20 April, Martin Schwartzschild, an international leader in astronomical research and senior research associate at Princeton University, will speak on the structure of giant elliptical galaxies. The talk will be held in the Einstein Spacearium of the National Air and Space Museum.

## EXCERPTS FROM THE IAU CIRCULARS

1. February 3 — Chabaudie, Feraudy, Mansin, Meyer, and Torres, CERGA, observed a 5.3-s occultation of AGK3 +11°201 by (19) Fortuna with the 1.5-m reflector at the Caussols Station. Pinson and Candela observed the occultation visually from La Seyne-sur-Mer.

2. February 11 — E. L. G. Bowell, Lowell Observatory, discovered a comet of 16th magnitude in Leo on photos taken by B. A. Skiff with the 33-cm telescope at Anderson Mesa. The orbital elements of Comet Bowell-Skiff (1983c) by Marsden indicate that it has a period of 15.2 years.

3. February 22 — M. Wakuda, Hamamatsu, Shizuoka, Japan, discovered a nova of 8th magnitude in Serpens photographically. It was confirmed on an exposure made the same night by M. Honda, who reported it to have been below 13th magnitude on the previous night's exposures.

4. April 4 — Millis and Wasserman, Lowell Observatory, using an astrographic plate taken by Klemola at Lick Observatory, predict that Pluto will pass 0.4 from BD +6°2851 at 7h 36m UT, but the uncertainty is such that an occultation might still be observed.

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★ S T A R D U S T

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