



## ZIPOY SUGGESTS EMISSION - OBJECT VV8 MODELS



DR. ZIPOY

A 14th-magnitude astrophysical puzzle, the peculiar emission-line object VV8 in Perseus has been classed as a planetary nebula.

At the June 5 meeting of National Capital Astronomers, Dr. David M. Zipoy, Associate Professor of the University of Maryland, will review the observations of VV8 and present a few models to explain them.

The spectrum of VV8 indicates a class G supergiant surrounded by a dense planetary nebula, a highly unlikely combination. The observations would require such a system to be in the fringes of the galaxy — a quite inappropriate place for a young planetary.

An alternative model ascribes the spectrum to an early B star partly surrounded by an H II region, the source of strong Balmer and O III lines, further surrounded by an optically thick

neutral shell which produces the G-supergiant absorption spectrum as well as considerable reddening of the star and H II region.

This model also poses theoretical problems, which Dr. Zipoy will discuss. If it proves untenable, however, there are few options left for explaining the continuum and the absorption spectrum.

David M. Zipoy was born in Minneapolis, Minnesota, and received his Ph.D. from the University of Minnesota in 1957. His Ph.D. thesis was in experimental low-energy physics. He followed with post-doctoral work at Cornell in high-energy physics before coming to the University of Maryland where he works in experimental general relativity and observational astronomy.

**JUNE CALENDAR** — *The public is welcome.*

Friday, June 4, 11, 18, 25, 7:30 PM — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.

Saturday, June 5, 6:00 PM — Dinner with the speaker at O'Donnell's Sea Grill, 1221 E Street, NW. Reservations not necessary.

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

Monday, June 7, 14, 21, 28, 7:30 PM — Telescope-making classes at the Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.

Saturday, June 19, 9:00 PM — *Exploring the Sky*, presented jointly by NCA and the National Park Service. Glover Road south of Military Road, NW, near the Rock Creek Nature Center. Planetarium program if cloudy. Information: Bob McCracken, 229-8321.

## NCA ELECTS NEW OFFICERS

At the annual NCA business meeting in May, the following officers were elected for the fiscal year beginning July 1:

President	Benson Jay Simon
Vice President	Geoffrey P. Hornseth
Secretary	William R. Winkler
Treasurer	Robert M. Lynn
Trustee	G. Robert Wright (four-year term)
Sergeant at Arms	Richard J. Byrd

Some apparently were misinformed that two trustees were to be elected. This was not the case; one trustee is elected each year for a four-year term. In 1975 an additional trustee was elected to serve the three remaining years of the term resigned by Dr. John Eisele.

The trustees and their terms are:

G. Robert Wright	Elected 1976	Term expires 1980	Replaced Winkler
Henning Leidecker	1975	1979	
Jerome Schnall	1975	1978	Replaced Eisele
John A. Eisele	1974	(1975 - Resigned)	
James J. Krebs	1973	1977	
William R. Winkler	1972	1976	Now retired

## TREASURER'S ANNUAL REPORT - 1 MAY - 30 APRIL 1976

Income		Reconciliation of Checking Account and Current Funds	
Dues	\$2011.57	30 April 1976	
Obs Hdbks	105.00	Check Acct	\$2021.39
Tel Classes	61.00	Petty Cash	72.77
Total	2177.57	Total	2094.16
Outgo		1 May 1975	
Sky & Tel Subs	1042.00	Check Acct	1641.31
Star Dust	340.25	Petty Cash	64.30
Obs Hdbks	93.40	Total	1705.61
Graphic Timetabs	25.00	Gain	388.55
Speakers' Dinners	131.26		
DC Rec of Deeds	1.00		
AL Dues	85.00		
Paint	28.98		
Dues Refund	5.00		
President's Expenses	6.60		
Treasurer's Expenses	30.53		
Total	1789.02		
		<b>SUMMARY</b>	
		Income	2177.57
		Outgo	1789.02
		Gain	388.55
		Lawrence C. Torrance, Jr. Treasurer	

## VIRGINIA ASSOCIATION MEETS

The Virginia Association of Astronomical Societies met in Charlottesville on April 17, June LoGuirato reports. She presented Derek Wallentine's paper "Asteroid Photometry and the ALPO Minor Planets Section." Arlin Crofts and Jay Piper also attended. Arlin spoke on the Northern Virginia Astronomical Society's progress in building a spectrohelioscope.

*STAR DUST may be reproduced with proper credit to National Capital Astronomers.*

## CORNELL — NCA SAGAN LECTURE

More than 100 NCA people attended Carl Sagan's lecture Friday, May 7. Sagan spoke on planetary exploration and the search for life on Mars. He showed photographs of the Martian surface from the highly successful orbiter program and interpreted certain features as being explained only by the action of substantial quantities of water.

In the question period, in which both Cornell and NCA people actively participated, Dr. Sagan explained how subtle differences between certain linear lunar features and apparently similar Martian features suggest that the former are probably collapsed lava tubes rather than water channels.

Sagan outlined the sophisticated life-detection systems on Viking, scheduled to land on Mars this summer, hopefully in one of the valleys where rivers are thought to have flowed. He reminded his audience that Viking, as complex as it is, is only designed to detect the presence of organisms in the vicinity of the spacecraft whose biology is similar to Earth types, and negative results would not be a conclusive finding that life does not exist on Mars. bs

## PLANNING NCA ACTIVITIES FOR THE NEW YEAR

NCA officers have made an aggressive effort to increase club activities in the past year in response to member interests. Starting in late summer and early fall a wide range of special activities were organized between regular monthly meetings covering a diverse spectrum of member interests, including among other things, orbital mechanics, exobiology, astrophotography, occultation observation, planetary and variable-star observation, nova patrol, and general observing and telescope use.

NCA members have an extraordinary breadth of interests. Their background in astronomy ranges from novice amateurs being helped in the selection and use of their first telescopes to professional astronomers with international reputations. We try hard to plan a diversity of lecture subjects and other activities that will at various times fulfill the special interests and needs of all members. But we need feedback from *you* to help us plan. Your suggestions last year allowed us to increase substantially the extent of member participation in NCA activities. Please continue to use the telephone, or drop a line to NCA President Benson Simon, (301) 776-6721; 8704 Royal Ridge Lane, Laurel, Maryland 20811; or the other officers or trustees, to let us know what you want from NCA next year — and let us know if you can help in program planning or direction, or in basic association activities such as publicity and membership development. bs

## CONVENTION REGISTRATION HEAVY

Registration for the 1976 joint convention of the Astronomical League and the Association of Lunar and Planetary Observers is approaching capacity, reports Bob Wright. Those expecting to attend should register as early as possible. Forms are available from George H. Maurer, Route 3, Box 140, Coopersburg, PA 18036.

## NOTE ON CURRENT RESEARCH

*Galactic density and birthrate of pulsars* — Hulse and Taylor (1974) tabulated luminosity and distance distributions for a representative sample of pulsars near the galactic plane and longitude  $50^\circ$ . From these data, D. H. Roberts of the University of California, San Diego, estimates the density of pulsars in our galaxy at 30 per cubic kiloparsec; a birthrate of one every few hundred years is required to maintain this density. *Astrophysical J. Letters*. April 1, 1976

## EXCERPTS FROM THE IAU CIRCULARS

1. March 16 — R. R. Joyce, Kitt Peak National Observatory, found that Neptune had increased in brightness at least 1.5 magnitude in the infrared L band since 1975 June 2.

2. March 19 — H. Mauder, University of Tübingen, observed ultraviolet pulsations in WRA 977, the suggested optical counterpart of X-ray source 3U 1223-62. The observed period of 11.657 minutes corresponds to that of the X-ray bursts. The observations were made at the European Southern Observatory with the 50-cm pulse-counting photometric telescope.

3. May 3 — Eugene A. Harlan, Lick Observatory, discovered a 15th-magnitude comet (1976g) in Canes Venatici on plates taken with the 51-cm double astrograph.

4. June 16 — G. E. Taylor, H. M. Nautical Almanac Office, predicts that an occultation of the star SAO 80046 by Iapetus will be visible from Brazil.

## FOR SALE

Eight-inch Newtonian telescope. Cave mirror, heavy equatorial mount, clock drive, two eyepieces; \$300. Jack Gardner, 229-6119 after 7:00 PM.

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Published eleven times yearly for NATIONAL CAPITAL ASTRONOMERS, INCORPORATED, a non-profit, public-service organization promoting interest and education in astronomy and related sciences. President, Benson J. Simon. 5748 D/57; Robert H. McCracken, 5120 Newport Avenue, Washington, DC 20016. Deadline: 15th of preceding month.