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ABSTRACTS OF PAPERS PRESENTED AT THE
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A NEW STYLE OF NOVA HUNTING

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Abstract

A study or examination of common areas used in nova hunting is discussed. A definition of common area is provided. A description of the type of novae that frequent common areas and the relation of common areas to the galactic equator are explored. It is hoped that such a study will assist the nova hunter in creating techniques for searching out novae in the Milky Way.

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SEARCHING FOR THE PERIOD OF CK COMAE BERENICES

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Abstract

Light curves based on the accepted period of CK Comae Berenices show considerable scatter and phase shifts. The search for a "better" period continues.

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A PROGRAM TO SEARCH MORE GLOBULAR CLUSTERS
FOR VARIABLE STARS

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Abstract

For the past several years, a program has been underway to search hitherto poorly searched globular clusters for variable stars. A progress report and a discussion of the possible implications of the results are presented.

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THE VISUAL BEHAVIOR OF SS AURIGAE

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Abstract

AAVSO visual observations of the cataclysmic variable star SS Aurigae from 1907 to 1983 (JD 2417940 to 2445669) have been analyzed. The mean interval between outbursts is 55.7 ± 1.2 days, with the visual magnitude ranging from 15^m7 to 10^m2. Two distinct types of maxima were found: wide maxima lasting approximately 10.5 days, and narrow maxima averaging 4.2 days. The wide outbursts tend to be brighter than the narrow outbursts. There is also a tendency for wide maxima to be preceded by long minima and for narrow maxima to be preceded by short minima. Three intervals of peculiar activity were observed, in 1928-1929, 1970-1971, and at the end of the interval studied in 1983. During these intervals the maxima tended to be very frequent (15 to 30 days) and of small amplitude (about 2 magnitudes).

(This paper will appear in full in a future edition of JAAVSO.)

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CCD AND PHOTOELECTRIC PHOTOMETRY
OF AAVSO COMPARISON SEQUENCES

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Abstract

Photoelectric and CCD photometry of 14 AAVSO variable star fields are presented. The fields chosen were ones for which previous sequences were suspect or incomplete. New sequences have been determined, and results obtained using the two methods are compared.

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ARE THE FADINGS OF R CORONAE BOREALIS TRULY RANDOM?

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Abstract

Goncharova *et al.* (1983) have recently investigated the brightness variability of R Coronae Borealis at maximum light, and have claimed to find three periods in this variability: 27.36, 39.96, and 53.64 days. Furthermore, they have claimed that the spectacular fadings of R CrB are phase-locked to the 39.96 day period. This result is of interest because, although a similar effect has been found in the R CrB star RY Sagittarii, the fadings of R CrB have always been considered to be random.

We have made a preliminary investigation of the claim of Goncharova *et al.* regarding the periodicity of the fadings, using an independent approach. We have first compiled an independent list of the dates of onset of the fadings, using AAVSO, BAA, and other data. We have then tested all possible periods from 30 to 60 days, to see if any period produces a statistically significant clustering of the phases of the fadings. So far, we find that there is no such significant period (not even the 39.96 day period claimed by Goncharova *et al.*).

We thank the AAVSO and BAA observers, the Canada Summer Works Program, and the Natural Sciences and Engineering Research Council of Canada for their various roles in supporting this work.

REFERENCE

Goncharova, R. I., Koval'chuk, G. U., and Pugach, A. F. 1983, *Astrophysics* 19, 161.

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THE SEARCH FOR V1944 SAGITTARII

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Abstract

There should be images of the nova, V1944 Sagittarii, discovered on May 24, 1960, on Maria Mitchell Observatory plates taken in June of that year. However, indications are that the nova is located in a very crowded star field and as a result, its image may be partially or completely merged with one or more field stars. Therefore, no part of the blend of images can be unambiguously ascribed to V1944 Sgr. This result and information on five other novae in Sagittarius are included in the *Information Bulletin on Variable Stars* No. 2587.

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MARIA MITCHELL'S LITTLE GRAY-SHINGLED OBSERVATORY IN LYNN

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Abstract

This paper examines the facts we know about Maria Mitchell's observatory in Lynn, Massachusetts, from pictures, correspondence, and published accounts of it found in the archives at Vassar College, the Science Library of the Nantucket Maria Mitchell Association, and the Historical Societies and Libraries of Lynn and Nahant, Massachusetts.

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PULSATION, MASS LOSS, AND STELLAR EVOLUTION

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Abstract

Stellar pulsation is useful: from the variations in light and other quantities we can learn more about pulsating stars than we could if they were static. Recently, we have realized that stellar pulsation may have a deeper significance for stellar evolution: stellar mass loss may be tied to pulsation in a very generalized way. The Mira variables have very strong winds, strong enough to drive off their entire envelopes in about a million years. This mass loss is at least an indirect result of their pulsation, which produces shock waves that lift material to very high stellar altitudes where radiation pressure can blow it away. For the RR Lyrae stars, pulsation probably produces a "corona" of material at about $100,000^{\circ}$ K; this corona then drives a wind similar to (but many times stronger than) the solar wind. Some possible consequences of pulsation-related mass loss for RR Lyrae stars and Cepheids are discussed.

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