

ABSTRACTS OF PAPERS PRESENTED AT THE 78TH SPRING MEETING
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VARIABLE MARS OBSERVING USING VARIABLE STAR OBSERVING TECHNIQUES

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Abstract

Mars' 1988 close approach to Earth allowed AAVSO visual variable star observing techniques to be used in making visual intensity estimates of the changing relative brightness of features on the Martian disk.

Variable Mars observing and variable star observing exhibit several parallels in terms of spatial, spectral, radiometric, and temporal characteristics. Like the Sun and cataclysmic variables, Mars is subject to rapid, unpredictable "outbursts" (e.g. dust storms, orographic clouds, etc.). And like the Sun and pulsational variables, Mars' features undergo continuous, longer-term brightness changes (e.g. waves of "darkening," polar cap growth and shrinkage, etc.). These interesting variations can be visually measured using a numerical intensity scale of relative brightness, from comparison features on the Red Planet itself. With practice, and careful observing technique, relatively consistent feature brightness estimates can be made.

Just as with the AAVSO, an upsurge of interest by professional scientists, along with declining research funding has led to reliance on extensive Mars data provided by the Association of Lunar and Planetary Observers - Mars Section - International Mars Patrol (ALPO-MS-IMP). AAVSO's long legacy can provide an example to the ALPO-MS-IMP in organizing and training observers, directly supporting professionals, reporting fast changing events, publishing data, and receiving recognition from the scientific community.

Variable star observers should consider variable Mars observing as a challenging way to apply their skills in another area of proven scientific value. The ALPO-MS-IMP welcomes their help and may be contacted through the ALPO.

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THE NATURE OF PULSATIONS IN UU HERCULIS

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Abstract

The variable star UU Herculis is known to have two periods of about 45 and 72 days each. These two periods interchange ("switch") at quasi-regular intervals, sometimes with irregular variability between them.

Long series of visual observations of UU Her were analyzed. The analysis gave (at least) two periods, which appear to be always present in the variability of the star, but with varying amplitudes. There is no period switch. The results indicate that UU Her might bear some resemblance to the beat Cepheids.

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THE PHOTOMETRIC VARIABILITY OF EU DELPHINI

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Abstract

EU Delphini (HR 7886, HD 196610, M6III) is a small-amplitude red variable with a catalogue period and visual amplitude of 59.5 d and 0.9 magnitude, respectively. We report new photoelectric V observations of EU Del, obtained each year from 1983 to 1988 as part of the AAVSO photoelectric photometry program. We give times and magnitudes of maximum and minimum light, determined from these and earlier observations. We use power spectra and (O-C) diagrams to determine a period of 62.83 d, which is remarkably stable over two decades, even though the amplitude is highly variable. The variability in amplitude does not appear to be due to a secondary period. There are, however, long-term variations in mean visual magnitude, with an amplitude of 0.3 and a possible period of 250 d. The range of our observations is from 5.59 to 6.45 in V , giving a total range of 0.86 magnitude.

This paper demonstrates the useful results which can be obtained from systematic observations of small-amplitude red variables, such as are found in the AAVSO photoelectric photometry program.

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PREPARATIONS FOR THE 1990 AAVSO MEETING IN BRUSSELS, BELGIUM

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Abstract

The first AAVSO meeting to be held outside the North American continent will take place in Brussels, Belgium, between July 24 and 28, 1990, at the University of Brussels. The theme of the meeting is "International Cooperation and Coordination in Variable Star Research."

In preparation for this milestone meeting, the author met in Brussels with the Local Organizing Committee, made up of members of the Vereniging Voor Sterrenkunde (VVS), and Dr. Chris Sterken of the University of Brussels, to discuss the schedule of events and the scientific program, and to visit the dormitory and meeting facilities of the University and the city of Ghent, the banquet site. The author was impressed with the arrangements made to date.

This AAVSO meeting will provide a unique opportunity for professional and amateur astronomers in variable star astronomy to meet, learn from each other, and discuss future projects which will require international coordination and cooperation.