ABSTRACTS OF PAPERS PRESENTED AT THE 80TH ANNUAL MEETING OF THE AAVSO, HELD IN CAMBRIDGE, MA, OCTOBER 25-27, 1991

VISUAL OBSERVATION OF BINARIES WITH ECLIPSES OF LONG DURATION

Marvin E. Baldwin
Route 1
Butlerville, IN 47223

Abstract

Frequent random visual observations of six eclipsing binaries with no published minima within the past three decades have been made with the objective of establishing normal times of minima for the observing season. Well-defined light curves were obtained for five of these stars, BQ Aqr, DD Her, GU Her, LV Her, and V345 Cyg. The sixth star, NQ Her, although well-observed at all phases of the eclipse cycle, shows no evidence of a visually detectable eclipse.

NSV 7814: A PROBABLE ECLIPSING BINARY

Robert DeMartino
138 Harding Avenue
West Haven, CT 06156

Christopher J. Predom
89 Hilltop Road
East Haddam, CT 06423

Abstract

NSV 7814 was first observed to vary around the turn of the century when K. Graff (1921, *Astron. Nach.*, **213**, 176) used it as a comparison star for observations of SS Herculis. Our data span 548 days and total 84 magnitude estimates. The observations suggest a very short period eclipsing binary that varies from visual magnitude 11.2 to 12.2.

YOUR VERY OWN SOLAR SYSTEM

John Pazmino
Amateur Astronomers Association, Inc.
1010 Park Avenue
New York, NY 10028

The Awad Astronomical Model company and its proprietor George Awad are discussed. Awad, located in New York City, crafts 3-dimensional replicas of planets, satellites, and other solar system bodies. These are either free-standing pieces or part of a lifelike cosmic setting. Models are made from metal, plastic, wood, and other artisan's materials and are airbrushed and sculpted for surface texture. Sizes range from pebbles (for a desktop item) to multimeter globes (for ceiling-hung displays). Awad models are sought by museums, science centers, and even individuals.

ANALYSIS OF AAVSO VISUAL OBSERVATIONS OF SMALL-AMPLITUDE RED VARIABLES: AN AUTOCORRELATION APPROACH

John R. Percy
Li V. Sen
University of Toronto
Erindale College and Department of Astronomy
Mississauga, Ontario
Canada L5L 1C6

Abstract

Small-amplitude red variables are M giants pulsating with periods of 20 to 200 days, and amplitudes of up to a magnitude or more. Over the years, AAVSO observers have made thousands of visual estimates of dozens of these stars, and AAVSO photoelectric observers are now monitoring about 50 of them. We have developed a simple autocorrelation method of analysis, and have applied it successfully to AAVSO visual observations of RZ Ari, W Boo, FS Com, W Cyg, U Del, EU Del, and rho Per. The method has several advantages over traditional Fourier methods; it is particularly useful for stars which are not strictly periodic, or which vary on two or more significantly different time scales. It is able to accommodate data with large seasonal gaps and with large observational scatter, as long as the data are reasonably dense in time.

THE 3.5-HOUR PHOTOMETRIC PERIOD IN V603 AQUILAE

Gino Thomas
Department of Astronomy
Columbia University
New York, NY 10027

Abstract

29 nights of observation in the summer of 1991 show a 3.5-hour period in the light curve of V603 Aquilae (Nova Aql 1918). This period, a few percent longer than the orbital period, changes slightly over time. The change in the photometric period is difficult to understand in terms of the energy and angular momentum budgets of the system. V603 Aql, and other stars that possibly show the same phenomenon, such as TT Ari, are fairly bright. Long term monitoring, both photoelectric and visual, could be of great value in understanding the origin of these mysterious period changes.

CY AQUARII - THE CONTINUING STORY

Ronald E. Zissell
161 North Main Street
South Hadley, MA 01075

Abstract

The dwarf Cepheid CY Aquarii (period 88 minutes) has undergone 350,000 cycles since its discovery in 1934. Abrupt period changes seem to occur at intervals of 15 years. The latest period change, which occurred in 1989-90, slowed the period by 27 milliseconds per cycle.