

ABSTRACTS of papers presented at the Spring meeting of The American Association Of Variable Star Observers, May 27, 1972 at the Steward Observatory, Tucson, Arizona.

#### THE SUNDIAL AT KITT PEAK

R. Newton Mayall, AAVSO, Cambridge, Mass.

When I was asked to design the sundial in front of the Museum at Kitt Peak I was more than pleased, for it gave me a chance to work a semblance of astronomy into it. The design reflects the great telescope nearby, with its base and fork type mounting, the dial itself being the "telescope". The dial is of the equatorial type; that is, the dial plate lies in a plane parallel to that of the earth's equator. It is made of bronze. Apparent (sun) time is indicated by the shadow of a ball on a rod. The parallel lines vertical to the hour lines are the "lines of declination", drawn here to represent certain times of the year, and hence the shadow of the ball can be made to indicate the day of the year, although on this dial you would have to estimate the day at certain periods. Also you can obtain the time of sunrise and sunset. A table on the rail of the fence enables you to obtain the standard time.

#### THE PULSAR MECHANISM

Lewis J. Boss, Chula Vista, California

The discovery of pulsars by means of radio astronomy, their subsequent identification optically, and current theories regarding the nature of the pulsar mechanism were described.

#### OPTICS PROGRAM AT CITRUS COLLEGE

Michael E. Haglund, Azusa, California

Mr. Haglund showed slides illustrating some of the grinding and test equipment used in the course in optical fabrication at Citrus College, Azusa, California. He stated that this is the only college in the country offering a complete program leading to the granting of a degree in optical fabrication.

#### SUNSPOT COUNTING: SPECIAL EXPERIMENTAL TEST RUNS

David W. Rosebrugh, St. Augustine, Florida

In addition to making regular daily sunspot countings as a Standard Observer for the AAVSO Solar Division, the writer has made a series of experimental runs using various types of equipment and techniques. It should be noted that these special test runs have been made upon the writer's own initiative and not under the aegis of the AAVSO Solar Division. The aims of the runs completed so far have been to try to determine the optimum equipment for use in the American Sunspot Counting Program and to try to determine the equipment and procedures required to make countings having a high correlation with those made at Zurich.

One test of the projection method, involving 104 daily observations was made.

Eight tests of direct observation were made, using refractors equipped with Herschel Wedges and filters. Various

powers and apertures were used. These included powers of 29, 45, 60, and 90, and apertures of 60, 76, and 127 millimeters. The F-ratios lay between 12 and 24. A polarizing eyepiece was used in some runs. In one run of 153 daily observations, umbrae with penumbrae were given weightings similar to the procedure followed at Zurich.

These special experimental runs started on March 14, 1970 and the latest fully completed study ended on Feb. 29, 1972. Eight experimental runs, direct observation, have been thus far completed. Some of these were run concurrently. These runs involved 815 daily sunspot counts. In these runs counts made with the writer's regularly used 45x76 Cooke refractor were used as "controls".

The daily sunspot countings for all test runs have been submitted to the Chairman of the Solar Division on a current basis. A statistical report has been prepared for each of the nine completed test runs and copies of these reports, and of future reports, will be placed on file at AAVSO Headquarters.

Studies are still continuing, and the tenth test run, comparing countings made in mid-morning with countings made six hours later the same day, was completed observation-wise on April 30, 1972. 116 pairs of countings were made. The statistical report on this run is in preparation. Further test runs are in the planning stage and it is hoped to start these in the fall of 1972.

#### LATEST LARGE-SCALE LIGHT CURVE PLOTS; UPDATED NEWS RE AAVSO PUBLISHED LIGHT CURVES.

Margaret W. Mayall, AAVSO, Cambridge, Mass.

Mrs. Mayall described details of several large blueprint light curves which were displayed in the lecture room. These included long-time observer favorites Z Cam, R CrB, and U Gem. In discussing the U-Gem curve Mrs. Mayall requested that observers with large telescopes attempt to observe the eclipses of this star. It was noted that copies of the blueprinted light curves can be purchased from Headquarters.

Several computer-plotted light curves were displayed, and preparation of these for publication in AAVSO Report 29 was described. Prominent among these computer plots was that for SS Cygni. This was later converted into a special greeting, signed by all present, and sent to Harlow Shapley.

#### UP-DATED CATALOG OF PENCIL-TRACED AAVSO CHARTS

Clinton B. Ford, Wilton, Conn.

Mr. Ford announced that a new and up-to-date catalog of the temporary charts is now available. This is an expansion of the list reproduced in AAVSO ABSTRACTS, Fall 1970, at which time the new-chart program was described in detail. He noted that many of these charts are very preliminary, and that they are not yet ready for general distribution. As the charts become finalized they will be added to the regular catalog of blueprint charts.