

Dwarf Nova SS Cyg in Outburst

The bright dwarf nova SS Cyg explodes every 2 months, then gradually returns to its quiet state. Normally the star shines at roughly 12th magnitude, but brightens quickly during outbursts to 8th magnitude. Images like the ones below can yield precise measurements of a star's apparent brightness. Magnitude data for variable stars of all types are routinely submitted to the American Association of Variable Star Observers (AAVSO) by observers throughout the world. The extensive database maintained at the AAVSO contains a record of the star's magnitude and the time of each observation, and is an important resource for astronomers studying the physics of stellar evolution.

These images show SS Cyg in its quiet state, and also during a recent outburst. They were recorded at Indian Hill Observatory with an ST-402ME CCD camera equipped with a Johnson V photometric filter and the 12" SCT. The change in the observed V-I color index indicates the star became bluer and hotter during outburst as well. The photometric measurements were made with *AIP4WIN*.



SS Cyg (quiet), Sep 17 2009, 21:43 EDT, Mag 12.187V \pm 0.012, V-I Color Index 1.225, R. Baker



SS Cyg (outburst), Sep 25 2009, 22:40 EDT, Mag 8.497V \pm 0.025, V-I Color Index 0.141, R. Baker