RESULTS OF OPTICAL MONITORING OF THE DWARF NOVA SS CYG DURING THE 1993 CAMPAIGN OF CO-ORDINATED OBSERVATIONS WITH THE ASCA SATELLITE

IRINA VOLOSHINA
Sternberg Astronomical Institute, 119899 Moscow, Russia
e-mail:volosh@sai.msk.su

SS Cyg is the brightest known and therefore best studied classical dwarf nova and it was the first one from which X-ray radiation was discovered. SS Cyg is unique because it has been detected at very wide range of energies, from a few eV up to $\sim$ 10 keV (Jones & Watson 1992). It was chosen as the first cataclysmic variable for X-ray observations with the Japanese satellite ASCA. Simultaneous optical photometric and spectroscopic observations were also provided for completeness of the study.

SS Cyg was observed by ASCA in 1993 from 20:47 UT May 26 to 19:05 May 27. Our photometric monitoring of SS Cyg was started two days before, on May 24, and lasted two weeks. The observations were made with 60 cm telescope of the Sternberg Astronomical Institute in Crimea. The star BD+42°4186 served as the local standard. The measurement errors do not exceed 1%. The results of our *UBV* photometry are given in Table 1. Using these data and the measurements communicated by the AFOEV the light curve of SS Cyg was constructed. The analysis of this light curve shows that the ASCA observations were made while the system was at outburst maximum and on the first steps of decline. The outburst started on May 17 and ended on June 3 when SS Cyg returned to quiescence. According to the criteria described in Howarth (1978), such as the form of the light curve at maximum, the magnitude at the maximum, the outburst width at 9.5 mag, the outburst width at 10.5 mag and the rate of decline, we may conclude that this outburst is an anomalous one.

References

Howarth, I.D., 1978, J.British Astron.Assoc., **88**, 458
Jones, M.H., Watson, M.G., 1992, MNRAS, **257**, 633

A. Evans and J. H. Wood (eds.), Cataclysmic Variables and Related Objects, 73–74.
© 1996 *Kluwer Academic Publishers. Printed in the Netherlands.*

https://doi.org/10.1017/S0252921100038252 Published online by Cambridge University Press

TABLE 1. Photoelectric Photometry of SS Cyg

Date	$JD_{\odot}$	V	$B-V$	$U-B$
24 May	2449132.525	$9^m.003$	$-0^m.056$	$-0^m.940$
	529	8.998	−0.052	−0.940
25 May	2449133.478	9.070	−0.005	−0.855
	482	9.039	−0.057	−0.846
26 May	2449134.417	9.345	−0.047	−0.916
	422	9.390	−0.004	−0.931
	428	9.376	−0.012	−0.946
	433	9.390	−0.028	−0.950
	439	9.402	−0.014	−0.964
	448	9.543	−0.019	−0.969
30 May	2449138.453	10.847	−0.087	−0.996
	459	10.884	−0.061	−0.894
31 May	2449139.424	11.149	0.150	−0.823
	431	11.329	0.165	−0.822
	436	11.243	0.081	−0.906
	442	11.207	0.127	−0.940
	447	11.183	0.157	−0.849
2 June	2449141.450	11.718	0.455	−0.894
	455	11.915	0.524	−0.867
	460	11.987	0.529	−0.873
	465	12.006	0.548	−1.024
3 June	2449142.512	12.137	0.513	−0.952
	517	12.165	0.601	−1.067
	522	12.144	0.465	−1.017
7 June	2449146.356	12.011	0.395	−1.028
	363	12.103	0.430	−0.983
	369	12.039	0.471	−1.056
	374	11.996	0.484	−0.956
	381	11.953	0.452	−1.013
	387	12.086	0.523	−0.968
	393	12.076	0.552	−0.942
	400	11.873	0.356	−1.020
	406	11.868	0.488	−0.988
	411	11.963	0.463	−1.050
	417	11.929	0.454	−0.992
	424	11.970	0.528	−1.051
	431	12.141	0.577	−0.937
	438	12.099	0.763	−1.121

https://doi.org/10.1017/S0252921100038252 Published online by Cambridge University Press