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PHOTOELECTRIC TIME OF MINIMUM FOR AI CRUCIS

The eclipsing binary AI Cru was observed photoelectrically on the UBV system on one night in March 1970 at the No.1 16-inch telescope of the Cerro Tololo Inter-American Observatory. A finding chart is given by Wesselink /1969/ wherein AI Cru is Wesselink's star No. 1 and the comparison star used by me is Wesselink's star No.2.

Table A

HJD	ΔV	$\Delta / \underline{B-V} /$	$\Delta / \underline{U-B} /$
2440676.7489	+0.125	-0.016	-0.077
.7510	.161	-0.020	-0.079
.7554	.156	-0.008	-0.078
.7575	.202	-0.032	-0.095
.7618	.201	-0.015	-0.086
.7641	+0.214	-0.018	-0.084
.7696	.258	-0.019	-0.062
.7718	.268	-0.005	-0.078
.7764	.317	-0.033	-0.063
.7786	.311	-0.032	-0.050
.7836	+0.353	-0.039	-0.044
.7858	.358	-0.022	-0.062
.7900	.377	-0.020	-0.044
.7923	.398	-0.031	-0.047
.7971	.440	-0.028	-0.046
.7991	+0.438	-0.018	-0.050
.8033	.435	+0.005	-0.059
.8055	.457	-0.007	-0.053
.8114	.450	+0.001	-0.030
.8135	.434	+0.025	-0.061
.8184	+0.464	-0.022	-0.045
.8208	.452	-0.014	-0.043
.8403	.356	+0.022	-0.084
.8428	.353	0.000	-0.062
.8479	.318	-0.019	-0.051
.8503	+0.312	-0.012	-0.070
.8570	.254	+0.001	-0.072
.8591	.250	-0.020	-0.085
.8819	.091	+0.013	-0.091
.8840	.096	-0.001	-0.084
.8879	+0.076	-0.022	-0.058
.8900	.054	-0.006	-0.068

Column 1 in Table A lists the heliocentric Julian Date. Columns 2, 3 and 4 list the differential V , $B-V$ and $U-B$ magnitude and color indices in the sense variable minus comparison. The times of observation are accurate to a few seconds. The accuracy of the photometry is within ± 0.02 magnitudes

The derived heliocentric Julian Day time of primary minimum is HJD 2440676.813 \pm 0.001 as derived by the technique outlined by Kwee and van Woerden /1956/. When compared to the ephemeris quoted by Koch, Sobieski and Wood /1963/, the O-C for this primary minimum is +0.018.

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