COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS

Number 5197

Konkoly Observatory
Budapest
10 November 2001

HU ISSN 0374 – 0676

USNO A 1125.14834179 IS A MIRA VARIABLE

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Name of the object:
A1125.14834179 in USNO A2.0

Equatorial coordinates:	**Equinox:**
R.A.= $19^{\rm h}59^{\rm m}41\overset{\rm s}{.}90$ **DEC.**= $+22°33'50\overset{''}{.}0$	2000.0

Observatory and telescope:
"Bellatrix" Astronomical Observatory; 15cm, f/5 reflector

Detector:	CCD SBIG ST-7 (based on the Kodak KAF0400 chip: 765*510 pixels)

Filter(s):	None

Comparison star(s):	A1125.14828225 in USNO A2.0, $R = 14\overset{\rm m}{.}5$

Check star(s):	A star in the field (no ID available)

Availability of the data:
Available through the IBVS web-site. (5197-t1.txt)

Type of variability:	M

Remarks:
The V−C1 light curve shows a total magnitude range of about 2.7 mag., with a cycle-length of about 270 days (Figure 2), which is typical of Mira-type variables. The red colour of the star in the USNO-A1.0 catalogue indicated that it was a Mira or a semiregular variable (Skiff 1977), but it didn't appear in the IRAS point-source, the MSX and the 2MASS catalogues. If we assume that the zero-point is close to the standard Cousins R system, then the variable has a range of $13\overset{\rm m}{.}9 < R < 16\overset{\rm m}{.}5$. Since the variable is somewhat redder than the comparison stars, and given the extended red sensitivity of the unfiltered CCD, the true R magnitudes are likely somewhat fainter. The *rms* scatter of the differential magnitude of C1−C2 is $0\overset{\rm m}{.}02$.

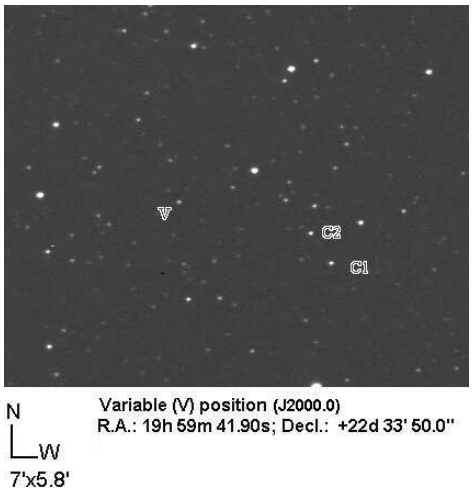

Figure 1. Identification chart for USNO A 1125.14834179.

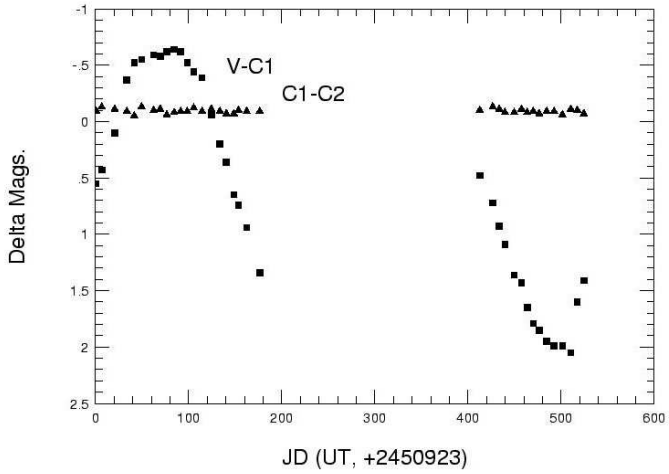

Figure 2. Differential light curves of USNO A 1125.14834179−C1 and C1−C2.

Acknowledgements:

I wish to thank Brian Skiff (Lowell Observatory) and Taichi Kato (Kyoto University) for their valuable suggestions at the very early discovery stages. They have also kindly reviewed this manuscript. Many thanks, finally, to all the people who have given useful information during the first attempts to verify the discovery. Bellatrix Observatory thanks Santa Barbara Instruments Group and Software Bisque for their support.

References:

Monet, D., Bird, A., Canzian, B. et al. 1996, USNO-A2.0, (U.S. Naval Observatory, Washington DC)

Skiff, B. A., 1997, http://www.kusastro.kyoto-u.ac.jp/vsnet/Mail/chat0/msg00487.html