

BALTIC ASTRONOMY Vol. 22, No. 3 (2013), ABSTRACTS

Seven-color Photometry and Classification of Stars in the Direction of Open Cluster M 29 (NGC 6913) in Cygnus

K. Milašius¹, R. P. Boyle², F. J. Vrba³, R. Janusz⁴, V. Straizys¹, K. Černis¹, V. Laugalys¹, K. Zdanavičius¹, J. Zdanavičius¹, A. Kazlauskas¹ and R. Smilgys¹

¹ *Institute of Theoretical Physics and Astronomy, Vilnius University, Goštauto 12, Vilnius LT-01108, Lithuania*

² *Vatican Observatory Research Group, Steward Observatory, Tucson, Arizona 85721, U.S.A.*

³ *U.S. Naval Observatory Flagstaff Station, P.O. Box 1149, Flagstaff, Arizona 86002, U.S.A.*

⁴ *University School 'Ignatianum', Cracow, Poland*

Received: 2013 May 5; accepted: 2013 June 1

Abstract. Magnitudes and color indices in the Vilnius seven-color system were determined for 1752 stars down to $V = 19.5$ mag in the direction of the open cluster M29 (NGC 6913). The region is centered at $RA = 20:24$, $DEC = +38:30$ (J2000) and covers an area of 1.5 square degree. The photometric data are used to classify about 70% of stars in spectral and luminosity classes and peculiarity types.

Key words: stars: photometry: Vilnius photometric system – stars: fundamental parameters, classification – Galaxy: open cluster (NGC 6913, M29)

Seven-color Photometry and Classification of Stars in the Vicinity of the Emission Nebula Sh2-205

V. Čepas, J. Zdanavičius, K. Zdanavičius, V. Straizys and V. Laugalys

*Institute of Theoretical Physics and Astronomy, Vilnius University,
Goštauto 12, Vilnius, LT-01108, Lithuania*

Received: 2013 July 1; accepted 2013 July 22

Abstract. We present the results of CCD photometry in the seven-color Vilnius system for 922 stars down to $V = 17$ mag in a 1.5 square degree field at the northern edge of the H II region Sh2-205, at the Perseus and Camelopardalis border. Using the intrinsic color indices and photometric reddening-free Q-parameters, two-dimensional spectral types for most stars are determined.

Key words: stars: fundamental parameters, classification – H II regions: individual (Sh2-205) – Vilnius photometric system

Seven-color Photometry and Classification of Stars in the Vicinity of the Dark Cloud TGU H994 (LDN 1399, 1400 and 1402)

V. Čepas, J. Zdanavičius, K. Zdanavičius, V. Straizys and V. Laugalys

*Institute of Theoretical Physics and Astronomy, Vilnius University,
Goštauto 12, Vilnius, LT-01108, Lithuania*

Received: 2013 August 12; accepted 2013 September 9

Abstract. The results of CCD photometry in the seven-color Vilnius system are given for 727 stars down to $V = 17$ mag in a 1.5 square degree field in the region of dark cloud TGU H994 P1 (or LDN 1399, LDN 1400 and LDN 1402) in Camelopardalis. Using the intrinsic color indices and photometric reddening-free Q-parameters, two-dimensional spectral types for 73% of stars are determined.

Key words: stars: fundamental parameters, classification – ISM: dust clouds: individual (TGU H994, LDN 1399, LDN 1400, LDN 1402) – Vilnius photometric system

On the Nature of V2282 Sgr

R. Nesci¹, C. Rossi², A. Frasca³, E. Marilli³ and P. Persi¹

¹ *INAF-IAPS, via Fosso del Cavaliere 100, 00133 Roma, Italy; roberto.nesci@iaps.inaf.it*

² *Department of Physics, University La Sapienza, P. le A. Moro 2, 00185 Roma, Italy; corinne.rossi@uniroma1.it*

³ *INAF-OACT, via S. Sofia 78, 95123 Catania, Italy; antonio.frasca@oact.inaf.it*

Received: 2013 September 15; accepted 2013 October 15

Abstract. The star V2282 Sgr is positionally consistent with a strong Chandra X-ray and a Spitzer/IRAC mid-infrared source. We derived its long-term I-band light curve from the photographic archives of the Asiago and Catania Observatories, covering the years from 1965 to 1984. Also, CCD R_C photometry of 2009 was re-analyzed. Optical spectra were collected at the Loiano Observatory in 2011 and 2012. J,H,Ks photometry, obtained from several sources in different epochs was compared and the Spitzer images were re-analyzed. V2282 Sgr was found to be an irregular variable in all wavelengths. Spectroscopically, it shows strong emission features (H Balmer lines, [N II] 6584 Å and [O III] 5007/4959Å) while the Na I D-doublet is very strong, indicating a circumstellar envelope. A single thermal energy distribution cannot reproduce the observed SED, while it can be explained as the sum of a G-type star plus a variable circumstellar disk, which mimics YSO of class 0/I. Most likely, V2282 Sgr is a 1-2 M_{\odot} mass pre-main-sequence star with an accretion disk.

Key words: stars: pre-main-sequence, protostars, variables: T Tauri: individual (V2282 Sgr)