Spectral Identification of New Galactic cLBV and WR Stars

G. S. Stringfellow (1), V. V. Gvaramadze (2), Y. Beletsky (3) and A.Y. Kniazev (4,2)

(1) Center for Astrophysics and Space Astronomy, University of Colorado, 389 UCB, Boulder, CO 80309-0389, USA;
(2) Sternberg Astronomical Institute, Moscow State University, Universitetskij Pr. 13, Moscow 119992, Russia;
(3) European Southern Observatory, Alonso de Cordova 3107, Santiago, Chile;
(4) South African Astronomical Observatory and Southern African Large Telescope Foundation, PO Box 9, 7935 Observatory, Cape Town, South Africa

We have undertaken a near-IR spectral survey of stars associated with compact nebulae recently revealed by the Spitzer and WISE imaging surveys. These circumstellar nebulae, produced by massive evolved stars, display a variety of symmetries and shapes and are often only evident at mid-IR wavelengths. Stars associated with ~50 of these nebulae have been observed. We also obtained recent spectra of previously confirmed (known) luminous blue variables (LBVs) and candidate LBVs (cLBVs). The spectral similarity of the stars observed when compared directly to known LBVs and Wolf-Rayet (WR) stars indicate many are newly identified cLBVs, with a few being newly discovered WR stars, mostly of WN8-9h spectral type. These results suggest that a large population of previously unidentified cLBVs and related transitional stars reside in the Galaxy and confirm that circumstellar nebulae are inherent to most (c)LBVs.

Reference: To appear in "Four Decades of Research on Massive Stars: A Scientific Meeting in Honour of Anthony F. J. Moffat", ASP Conference series, 2012, eds. Laurent Drissen, Nicole St Louis, Carmelle Robert, and Anthony F.J. Moffat.
Status: Conference proceedings

Weblink: http://arxiv.org/abs/1112.2686

Comments: 3 pages, 2 figures

Email: Guy.Stringfellow@colorado.edu