STELLAR PROPERTIES OF THE CLASSICAL LBV R127 – IMPLICATIONS FOR MASSIVE STELLAR EVOLUTION

P.A. CROWTHER AND L.J. SMITH
Dept of Physics & Astronomy, UCL, Gower Street, London, WC1E 6BT, U.K
pac@star.ucl.ac.uk

We present a new analysis of R127 (HDE 269858) – the classical Luminous Blue Variable in the LMC – during various phases of its spectral evolution over the past two decades, ranging from 9,000K to 28,000K. High quality CTIO, ESO and AAT spectroscopy are utilised to trace the variation in stellar properties for R127 with spectroscopic phase. R127 is found to possess almost identical stellar properties to AG Carinae during each stage, with a comparable helium enriched surface composition (H/He=2 by number). Results obtained from recent HST/FOS spectroscopy also indicate near identical nebular conditions to AG Carinae, with comparable electron densities and temperatures. In contrast with expectations, nebulae represent lightly processed material, suggestive of H-rich red supergiant envelopes. We discuss the importance of our results for LBVs, and the wider picture of massive stellar evolution within different environments.

J. Andersen (ed.), Highlights of Astronomy, Volume 11A, 369.