

Atmospheric parameters and rotational velocities for a sample of Galactic B-type supergiants

Fraser, M., Dufton, P., Hunter, I., & Ryans, R. (2010). Atmospheric parameters and rotational velocities for a sample of Galactic B-type supergiants. *Monthly Notices of the Royal Astronomical Society*, 404(3), 1306-1320. DOI: 10.1111/j.1365-2966.2010.16392.x

Published in:

Monthly Notices of the Royal Astronomical Society

Queen's University Belfast - Research Portal:

[Link to publication record in Queen's University Belfast Research Portal](#)

General rights

Copyright for the publications made accessible via the Queen's University Belfast Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The Research Portal is Queen's institutional repository that provides access to Queen's research output. Every effort has been made to ensure that content in the Research Portal does not infringe any person's rights, or applicable UK laws. If you discover content in the Research Portal that you believe breaches copyright or violates any law, please contact openaccess@qub.ac.uk.



Mon. Not. R. Astron. Soc. **404**, 1306–1320 (2010)

doi:10.1111/j.1365-2966.2010.16392.x

Atmospheric parameters and rotational velocities for a sample of Galactic B-type supergiants

M. Fraser,[★] P. L. Dufton, I. Hunter and R. S. I. Ryans

Department of Physics and Astronomy, Queen's University of Belfast, Belfast BT7 1NN

Accepted 2010 January 20. Received 2010 January 18; in original form 2009 November 1

ABSTRACT

High-resolution optical spectra of 57 Galactic B-type supergiant stars have been analysed to determine their rotational and macroturbulent velocities. In addition, their atmospheric parameters (effective temperature, surface gravity and microturbulent velocity) and surface nitrogen abundances have been estimated using a non-local thermodynamic equilibrium grid of model atmospheres. Comparisons of the projected rotational velocities have been made with the predictions of stellar evolutionary models and in general good agreement was found. However, for a small number of targets, their observed rotational velocities were significantly larger than