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# On the Nature of the X-ray Bright Supergiant B[e] stars

Elizabeth Bartlett<sup>\*1</sup>, J. Clark<sup>2</sup>, Ignacio Negueruela<sup>3</sup>, and Andrea Mehner<sup>4</sup>

<sup>1</sup>European Southern Observatory (ESO) – Alonso de Cordova 3107, Vitacura, Santiago, Chile

<sup>2</sup>The Open University – The Open University, Walton Hall, Milton Keynes, Buckinghamshire. MK7 6AA. UK., United Kingdom

<sup>3</sup>Universidad de Alicante (UA) – University of Alicante P.O. Box 99 E03080 Alicante , Spain

<sup>4</sup>European Southern Observatory (ESO) – Chile

## Abstract

The spectra of the evolved B[e] supergiants (sgB[e]s) are characterised by relatively broad, high excitation lines in combination with the narrow, low excitation line and a strong infrared excess due to hot dust. The explanation for this hybrid spectrum invokes a low density, fast polar wind and a much denser, slowly expanding torus in which dust forms. The formative agent of this torus is a topic of active research. There is growing support for the idea that sgB[e] stars represent either interacting or newly formed, post- interaction binary systems. In this scenario, the tori are ejected in a common envelope phase of close binary evolution. A number of sgB[e] stars are X-ray overluminous for single stars (i.e.,  $L_X > 10^{(-7)} L_{bol}$ ). Again, binarity is invoked to explain this. The recent association of Ultra Luminous X-ray source Holmberg II X-1 with a sgB[e] star only highlights the need for further study of sgB[e] stars. In this talk I will discuss the nature of the known X-ray bright sgB[e] stars and discuss some recent results from multiwavelength studies.

**Keywords:** sgB[e] stars, X, rays, X, ray binaries, colliding wind binaries

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\*Speaker