Physics of Luminous Blue Variables

edited by

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Luminous Blue Variables (LBV) is a class of stars whose study has undergone a renaissance during the 1980's. LBV mass loss in sporadic eruptions now seems relevant to such topics as the observed upper boundary in H-R diagrams, the origins of Wolf–Rayet stars, the use of red supergiants as extragalactic distance indicators, and the role of turbulence in the evolution of massive stars.

However, the cause of LBV eruptions remains somewhat mysterious. It now appears that radiation pressure modifies the hydrodynamics of the outer layers of these stars in such a way that chaotic non-linear behavior arises.

IAU Colloquium 113 on The Physics of LBV's, held in August 1988, was the first meeting devoted specifically to this topic. With numerous review papers plus a number of poster papers on new results, this book is intended to be suitable as an introduction to this relatively fresh topic in astrophysics. It also serves as a snapshot of the topic at a time when it is apparently just beginning to be understood.