

Workshop

Stellar End Products: The Low Mass - High Mass Connection

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Title:

Cold gas in hot star clusters: the fate of winds from red supergiants

Abstract:

The wind of red supergiants that co-exist with O stars in star clusters is photoionized from the outside. This drives a radiative shock into the wind that sets up an almost static dense shell in the stellar wind, about 2000 AU from the star. We apply this model to the recently discovered 0.1Msun static shell around Betelgeuse, and confront it with the circumstellar nebula of the red supergiant W26. For massive red supergiants, the shell can grow to several solar masses, strongly affecting supernova lightcurves, and may be a site of secondary star formation in the most massive star clusters.