

## Tracing back the mass loss history of MGE042.0787+00.5084.

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### Abstract

The luminous blue variable (LBV) phase is a short period of high instability that some high mass stars experiment after leaving the main sequence. Through steady and dense winds and sporadic giant eruptions, LBV stars can lose several solar masses in very short timescales ( $10^4$ – $10^5$  years), producing large circumstellar nebulae. By the action of stellar winds, high UV fields and low velocity shocks, these nebulae may become a breeding ground for molecular gas. The study of the chemistry and kinematics of this molecular component has proven extremely useful to reconstruct the mass loss history of these objects and estimate their energetic output.

In this poster we report the detection of an expanding torus-like structure surrounding the LBV candidate MGE042.0787+00.5084, achieved by means of CO observations at 1 and 3 mm with IRAM's 30m telescope. We analyze the physical parameters derived from the detected lines, with a particular emphasis on the isotopic ratios and the estimated mass loss rate. A dynamical model of the structure is also presented. We discuss the implications of these findings in the context of LBV mass loss. (See poster).