
Mira AB - A Unique Laboratory for Studying AGBs

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Abstract

We present here results from our long term study of Mira AB system. Mira A, the prototype of Mira-type Long Period Variables, is an AGB star loosing its mass via a strong dust driven wind, at the rate of \(5 \times 10^{-7} \text{ Mo} \text{ yr}^{-1}\). The companion, probably a white dwarf surrounded with an accretion disk, is accreting continuously from Mira A's wind at a distance of about 50 AU. We will highlight results from our multi-wavelength imaging and spectroscopy of Mira AB. Mira A atmosphere shows strong deviations from spherical symmetry. Furthermore, the asymmetric dust envelope around Mira AB suggests that the companion may have played an active role in shaping the distribution of the dust in the common circumbinary environment. This provides observational evidence for presence of asymmetric circumstellar and circumbinary environments in late type evolved stars, well before the onset of the final stage of Planetary Nebula.