Contribution ID: **46** Type: **Talk**

Variability of continuum radius and moleculer layers of R Car and VX Sgr using VLTI-GRAVITY

Tuesday 11 June 2024 09:40 (20 minutes)

Red giants and supergiants lose substantial fraction of their mass during their evolution and thus significantly contribute to the chemical enrichment of the interstellar medium. While the dust-driven wind coupled with pulsations can mostly explain the observed mass-loss rates of red giants on the asymptotic giant branch, this is not the case for red supergiants.

We obtained several epochs of Mira-type variable R Car and red supergiant VX Sgr, using spatially resolved near-infrared interferometry observations on VLTI-GRAVITY. We compare the observations with the state-of-the-art 1D and 3D models and archival data. This allows us to study regions close to stellar surface, where the mass-loss process is initiated, namely the continuum radius and the extended molecular layers, and also compare the structure and levitation of atmosphere between oxygen-rich Mira-type giants and red supergiants.

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Session Classification: A variety of AGB stars: observational understandings