

MID-IR OBSERVATIONS OF THE LATE-TYPE STARS VY CMa AND α -CETI USING IRTF-TEXES AROUND 8 AND $10\mu\text{m}$

GUIDO W FUCHS, *Institute of Physics, University Kassel, Kassel, Germany*; DANIEL WITSCH, *Institute of Physics, University of Kassel, Kassel, Germany*; ALEXANDER A. BREIER, THOMAS GIESEN, *Institute of Physics, University Kassel, Kassel, Germany*.

Late-type stars eject large amounts of material into outer space. At the very beginning of this process, i.e. close to the star, atoms form small molecules which finally react further to form larger species like nanoparticles. This very first step of chemical evolution is still not well understood. How do the first molecules form? What is the chemical inventory of the stellar atmosphere? To investigate these processes in the vicinity of stars requires both, high spatial and high frequency resolution. We have performed mid-infrared observations towards the stars VY Canis Majoris and Mira (α -ceti) using the high resolution TEXES instrument at the IRTF observatory. As the identification of molecular species requires high confidence in the transition frequency positions accompanying laboratory measurements have been performed, e.g for Si_2C , Al_2O and TiO around 8 and $10\mu\text{m}$.