Infrared Emission Spectra of R Coronae Borealis Stars

Aigen Li, J.R. Lin, K.J. Li, C.M. Mentzer, W.Y. Cui, J.R. Shi

Hebei Normal University, China; University of Missouri, USA

The R Coronae Borealis (RCB) stars are a small group of carbon-rich, hydrogen-deficient super-giants. RCB stars often show unusual variabilities in the optical, which are commonly thought to be caused by the formation of carbon dust at irregular intervals. *Spitzer*/IRS and AKARI spectroscopic observations of RCB stars have revealed a complex dust chemistry. While several RCB stars exhibit well defined PAH emission bands at 3.3, 6.2, 7.7, 8.6, and 11.3 μm, the vast majority shows broad, unidentified emission complexes at ~6--10 μm and ~11.5--15 μm. We model the infrared emission of RCB stars and try to understand the nature of the dust condensed in RCB stars.