

Model Dust Envelopes around Novae

Kyung-Won Suh

Department of Astronomy and Space Science
Chungbuk National University

Abstract

We have computed the model spectra for the novae that formed dust grains shortly after their explosions. And the results are closely compared with recent infrared observational data. The amorphous carbon grains appear to be the major component for the carbon-rich novae. And the silicate grains which reside in Mira variables are found to be the best candidate material for the oxygen-rich novae. In novae, the winds from the central stars are very strong and fast so the emergent spectra are highly dependent on the time scales of dust formation. We find optically thin dust emission for oxygen-rich novae because they have longer time-scales of dust formation and the dust shells with larger radii.