

[구ST-03] The infrared light curves of OH/IR stars

Young-Joo Kwon and Kyung-Won Suh

*Department of Astronomy and Space Science, Chungbuk National University
Cheongju, 361-763, Korea*

In order to study properties of pulsation of oxygen-rich AGB stars, we have compiled the infrared observational data at K, L and M bands obtained for a long time. We determine the pulsation periods and amplitudes for OH/IR stars by curve fitting. We use Marquardt-Levenberg algorithm for determination of the pulsation parameters. And we compare them with the results of previous investigations in infrared and radio band

**[구ST-04] Effect of Tidal and Rotational Distortions on the Minimal
Period of Cataclysmic Variables**

Fedir V. Sirotkin, & Woong-Tae Kim

Seoul National University

We study the influence of the geometrical distortions on the properties of cataclysmic variables close to the minimum period. We apply the results of our recent work on the changes in the stellar radius and the relative size of the Roche lobe of a polytrope with index $n=1.5$ under tidal and centrifugal perturbations. We find that (i) the tidal and rotational distortions increase the donor size by $\sim 4.2-5.7\%$ and decrease the relative size of the critical lobe by $\sim 1-2\%$; (ii) the distortions increase the orbital period by $\sim 8-11\%$ and decrease the effective temperature by less than $\sim 2\%$; (iii) the distortions decrease the Kelvin-Helmholtz timescale by $\sim 7-8\%$ and increase the mass-transfer timescale by $\sim 23-38\%$; and (iv) the donor reaches a state of thermal disequilibrium at mass about 10% smaller than that the prediction of the Roche model. Our results suggest that the tidal and rotational distortion alleviate the discrepancy between the observed minimal period and the theoretical prediction.