

[ST18] Calibration of 85 Pegasi

Bach, Kiehunn<sup>1</sup>, Kim, Yong-Cheol<sup>1</sup>, Demarque, Pierre<sup>2</sup>  
*<sup>1</sup>Yonsei University, <sup>2</sup>Yale University*

We have investigated the evolutionary status of the binary 85 Pegasi which has been one of the main target of asteroseismic observation by the MOST satellite. In spite of the accurate information of the total mass and the distance from the Hipparcos data, there has been a discrepancy in determination of the mass ratio between the results from astrometry, spectroscopy, and photometry. Moreover, the uncertainties in the metallicity and age, make worse to predict the oscillation spectrum in asteroseismic context. Nevertheless, because each components are low mass main-sequence stars and the separation is large enough, we have calibrated stellar parameters of 85 Pegasi using the standard stellar evolutionary theory.

The calibration of the binary 85 Pegasi has been performed by adjusting stellar modeling parameters (Mass, Chemical Composition, Age, and Mixing Length) to the recent observational data. And then, we found a confident parameter set as a best solution with the  $\chi^2$  minimization. Our computations have been utilized the standard stellar evolution theory with the recently updated input physics. The aim of the present paper is (1) to provide a complete modeling of the system based on the stellar evolutionary theory and (2) to constrain the physical dimension such as, mass and age.

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