

A cool spot model of the least massive eclipsing binary CM Draconis

Chung-Uk Lee¹, Jaewoo Lee¹, Wonyong Han¹,
Ho-il Kim¹, and Chun-Hwey Kim²

¹Korea Astronomy and Space Science Institute

²Dept. of Astronomy and Space Sciences, Chungbuk National University

CM Dra has been known as one of the least massive main-sequence eclipsing binary systems, and it plays a key role to test stellar models of low masses. Lacy (1979) established the masses and radii of the two components with uncertainties of a few percent. Metcalfe et al. (1996) derived its fundamental physical parameters with uncertainties of a half percent using 233 high resolution echelle spectra by combination of Lacy (1979)'s results. In this study, new multicolor CCD observations of CM Dra are presented and analyzed. In the analysis of our new light curves we focus on the light variation of outside eclipse and its properties. As a highly possible cause of the light variation we adopt a cool spot model and derive the spot parameters as well as new fundamental system parameters of CM Dra.