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The physical and pulsational parameters of oEA star AS Eridani: results from ground based analysis

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AS Eridani is a 2.664152 day, semi-detached Algol type binary system. Gamarova, Mkrtichian & Kusakina (2000) discovered a short-period 24 min pulsation in a primary mass-accreting component. The oscillation spectrum has been investigated by Mkrtichian et al. (2004), they suggested that AS Eri is a promising pulsating star for further detailed investigations.

We started a new campaign of observations of AS Eri in order to get accurate orbital and pulsational parameters. We carried out a 42-day long space photometric observational data of AS Eri with the Canadian MOST-space telescope. We also collected 66 nights of a follow-up ground-based observations of AS Eri with robotic telescopes PROMPT and 308 echelle spectra of AS Eri were acquired using the fiber fed Medium Resolution Echelle Spectrograph (MRES) at the 2.4meter Rithchey-Chretien Telescope of Thai National Observatory (TNO). Here we present results of the ground based observations of AS Eri. We used the Least Square Deconvolution (LSD) code to construct the LSD profiles and to measure the radial velocities of both components. The physical parameters of binary system were obtained from a simultaneous solution of the photometric and the radial velocity data using the PHOEBE code. We found an accurate parameters of the system and the low-amplitude pulsation spectrum.

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