

The period–radius relation of classical Cepheids and the problem of their mode identification

Mikhail Sachkov

Institute of Astronomy, Russian Academy of Sciences, Pyatnitskaya 48, 119017, Moscow,
Russia
email: msachkov@inasan.ru

Abstract. Based on radial-velocity measurements and photometric observations, we calculated the radii of around 200 classical Cepheids that were previously assumed to be fundamental-mode pulsators. Our detailed analysis of the period–radius diagram shows that the sample of Cepheids with pulsation periods shorter than 9 days probably contains a significant fraction (up to 30%) of stars pulsating in the first overtone.

Keywords. stars: fundamental parameters, stars: pulsations, Cepheids
