
A search for pulsating blue stars in NGC 6791 using Kepler LC data

Paulina Sowicka^{*†1}, Szymon Bachulski^{*2}, and Andrzej Baran^{‡3}

¹Astronomical Observatory of the Jagiellonian University (OA UJ) – ul. Orła 171, 30-244 Cracow, Poland

²Pedagogical University of Cracow – ul. Podchorążych 2, 30-084 Cracow, Poland

³Mt. Suhora Observatory of the Pedagogical University – ul. Podchorążych 2, 30-084 Cracow, Poland

Abstract

During phase one of Kepler observations, data of eighteen sdBV stars were collected. These data are of unprecedented quality and allowed us to detect equally period spacing sequences and multiplets. These two properties helped us to make mode identifications which is an unnecessary step in application of asteroseismology to infer stellar interiors. Here, we present our search for pulsating sdB stars in the vicinity of globular cluster NGC 6791 located in the Kepler field of view. To achieve our goal we pull out fluxes in customized apertures of a selected sample of blue objects around NGC 6791. We only have long cadence data to our disposal. The data were stored in super apertures and many objects in their fields are still waiting for analysis. We use PyKE and other customized scripts to perform Fourier analysis to detect possible periodicities in the typical region of gravity modes (10-24 c/d).

*Speaker

†Corresponding author: paula@byk.oa.uj.edu.pl

‡Corresponding author: andy@astro.as.up.krakow.pl