Stellar parameters and Hα line profile variability of Be stars in the BeSOS survey


Abstract

The Be phenomenon is present in about 20 per cent of B-type stars. Be stars show variability on a broad range of time-scales, which in most cases is related to the presence of a circumstellar disc of variable size and structure. For this reason, a time-resolved survey is highly desirable in order to understand the mechanisms of disc formation, which are still poorly understood. In addition, a complete observational sample would improve the statistical significance of the study of stellar and disc parameters. The ‘Be Stars Observation Survey’ (BeSOS) is a survey containing reduced spectra obtained using the Pontificia Universidad Católica High Echelle Resolution Optical Spectrograph (PUCHEROS) with a spectral resolution of 17 000 in the range 4260–7300 Å. BeSOS’s main objective is to offer consistent spectroscopic and time-resolved data obtained with one instrument. The user can download or plot the data and obtain stellar parameters directly from the website. We also provide a star-by-star analysis based on photometric, spectroscopic and interferometric data, as well as general information about the whole BeSOS sample. Recently, BeSOS led to the discovery of a new Be star HD 42167 and facilitated study of the V/R variation of HD 35165 and HD 120324, the steady disc of HD 110335 and the Be shell status of HD 127972. Optical spectra used in this work, as well as the stellar parameters derived, are available online at http://besos.ifa.uv.cl..

Keywords

Techniques: spectroscopic, Surveys, stars, Emission-line, Be.