GAIA impact on Chemically Peculiar star research

Denis Shulyak[1] , Oleg Kochukhov[2]

1 - Institute of Astronomy, Vienna University
2 - Department of Astronomy and Space Physics, Uppsala University

GAIA is an outstanding future mission of the European Space Agency, planned to be launched in 2011. The accurate measurements of parallaxes, radial velocities, and a number of astrophysical parameters of about 1 billion of stars determined by this mission will enormously improve understanding of the origin and evolution of the stellar population of our Galaxy. This billion of objects will also contain a certain fraction of Chemically Peculiar (CP) stars characterized by abnormal chemistry, unusual energy distributions, and the presence of surface magnetic fields. All these effects are often ignored in the standard photometric calibrations and model atmosphere calculations, possibly leading to the systematic errors in the fundamental parameters determination for these stars. In this talk we will present a current status of the extensive study of new-generation model atmospheres of CP stars and their application to the analysis of GAIA data.