
Pulsations in close binaries: challenges and opportunities

Carla Maceroni^{*1}, Ronaldo Da Silva¹, Holger Lehmann², and Josefina Montalban³

¹INAF - Osservatorio astronomico di Roma (INAF-OAR) – via Frascati 33 - Monte Porzio Catone, Italy

²Thüringer Landessternwarte Tautenburg (TLS) – Germany

³Free Lance (Free Lance) – Belgium

Abstract

CoRoT and Kepler have provided a precious by-product: a number of eclipsing binaries containing variable stars and, among these, non-radial pulsators. This providential occurrence allows combining independent information from two different phenomena whose synergy yields scientific results well beyond those from the single sources. In particular, the analysis of pulsations throws light on the internal structure of the pulsating component, on the system evolution, and on the role of tidal forces in exciting the oscillations. I will present the results of a few case studies illustrating the method of analysis and the achievements in this rapidly developing field.

^{*}Speaker