

The heliosphere as an accessible example of an astrosphere

Vladislav Izmodenov (1,2, 3)

(1) Space Research Institute (IKI) Russian Academy of Sciences, Moscow, Russia, (2) Lomonosov Moscow State University Russia, (3) Institute for Problems in Mechanics Russian Academy of Sciences, Moscow, Russia
(vlad.izmodenov@gmail.com)

Abstract

The astrospheres (or stellar bubbles) are formed by the interaction of the stellar wind (SW) and the circumstellar local interstellar medium (LISM). The shape of the astrosphere depends on properties of both SW and LISM. Currently, entire zoo of different shape astrospheres is observable. The shapes and sizes of the observable astrospheres allow to establish constrains on the SW and LISM properties.

Our heliosphere, the astrosphere of the Sun, is the only accessible example and the most explored example of the astrosphere. In the presentation, I will review current status of our knowledge on the global shape of the heliosphere from modeling point of view. Outstanding open questions that could potentially be resolved by Interstellar Probe will be discussed. I also will explore how our heliosphere looks from outside (i.e. as aliens from other see our heliosphere) and how the “outside view” is different for different heliospheric models.