

Project Details

ROSES ID: NNH14ZDA001N

Selection Year: 2014

Program Element: Physics of the Inner Heliosphere

Topic: Physics-based methods to predict connectivity of SEP sources to points in the inner heliosphere, tested by location, timing, and longitudinal separation of SEPs

Project Title:

Solar wind investigation in preparation for Solar Orbiter and Solar Probe Plus

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Project Member(s):

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Summary:

Understanding the origin, heating and acceleration of the solar wind is one of the main goals of Solar Orbiter and Solar Probe Plus. This investigation proposes the development of a novel set of tools that allow users to connect remote-sensing and in-situ data from Solar Orbiter and Solar Probe Plus, to identify individual structures as the wind source regions, and to study solar wind acceleration and heating and their response to the variability of the source regions. This tool set will be tested on existing data from ACE, Ulysses, SoHO, Hinode and AIA; these existing data will also be used to develop empirical models that can relate to and interpret the variability of the wind source regions and its effect on wind properties. The tool set, the empirical models, and the enhancement of our understanding of the solar wind provided by this investigation will provide a framework for the analysis of data from Solar Orbiter and Solar Probe Plus.

Publication References:

no references