



## **Investigations of the nature of the solar wind electron populations and predictions for the Solar Orbiter Solar Wind Analyser Electron Analyser System (SO-SWA-EAS)**

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Solar Orbiter will carry a suite of sensors making up the Solar Wind Analyser (SWA) package which is charged with the responsibility of characterising the thermal and suprathermal electrons, the protons and alpha particles and the heavy ion composition of the solar wind. In this presentation, we concentrate on the Electron Analyser System (EAS) component of SWA. Specifically, in preparation and planning for the mission and its operations, we have revisited existing solar wind measurements made by Cluster and Helios. We have re-analysed and re-interpreted some of this data in order to characterise the nature of the electron populations in the solar wind and their variations. We describe the results of some of these investigations. We show how these will relate to the novel observations to be made by EAS on Solar Orbiter, and thus illustrate the performance of this sensor.