

## A Test-Particle Simulation of ISM Oxygen over Heliosphere and Analysis for IBEX observations

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The result of a test particle simulation will be presented and discussed as a possible interpretation on Interstellar Boundary Explorer (IBEX) observations of InterStellar Medium (ISM) Oxygen. Due to the physical characteristics of Oxygen atom, neutral Oxygen had interacted with Hydrogen-dominated Heliosphere before they were observed by IBEX, and such Oxygen may contain some information of Heliospheric structure within its flux distribution over the sky. In order to understand this observation, we must classify the particles based on their histories of interactions with Heliosphere. We provide a unique classification on the test particles which makes the simulation result provide an insight on the IBEX observations.

Keywords: Heliosphere, Heavy particle, Interstellar Boundary Explorer (IBEX)