Model for the Modulation of Anomalous Cosmic Ray Oxygen Constrains Termination Shock Location to < 90 AU



An empirical model of the modulation of anomalous cosmic ray oxygen has recently been developed that is based on the observed relationship between the radial gradient and the till of the heliospheric neutral sheet. The tilt of the sheet is tabulated by the Wilcox Observatory (http://quake.stanford.edu/~wso/Tilts.html). The radial gradients were measured in the outer heliosphere with the Voyager and Pioneer spacecraft.

The figure shows the results of the model which were presented at the Fall meeting of the American Geophysical Union. The upper black line is the derived intensity at the solar wind termination shock, which is constrained to be within 90 AU according to the model fit.

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