

COSMIC-RAY EFFECTS OF PROPAGATING SHOCKS INCLUDING THE HELIOSHEATH

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It has been known for a long time (Jokipii, et al, 1993) that the effects of the heliosphere on cosmic rays extends beyond the termination shock and into the heliosheath. The inclusion of the region beyond the termination shock into models of modulation is still relatively recent. The previously-published model results have all been for a stationary system. We have modified our two-dimensional heliospheric cosmic-ray simulation code to be time dependent and to include a propagating shock wave which propagates out from the Sun and into the Heliosheath. The code follows the time variation of the intensity of both galactic and anomalous cosmic rays as the shock propagates past the point of observation and beyond. The results from the model simulations will be compared with recent observational results suggesting effects of the heliosheath on galactic and anomalous cosmic rays.

Reference Jokipii, J. R. , J. Kota and E. Merenyi, Ap. J., 405, 782, 1993.