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Effects of scattering parameters on charge-sign-dependent cosmic ray modulation.

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A comprehensive three-dimensional numerical drift model is used to compute the modulation of cosmic ray protons and anti-protons in the heliosphere. This is done using the latest development in diffusion coefficients and cosmic ray interstellar spectra. Emphasis is placed on the effects of the spatial and rigidity dependence of the scattering parameter ($\omega\tau$), with ω the gyro-frequency and τ a time scale defined by diffusive scattering, on the drift coefficient in the modulation of the mentioned species. A comparison of the numerical modelling of the ratio of anti-protons to protons obtained from different scenarios of $\omega\tau$ is made over a solar cycle. This charge-sign-dependent modulation study should assist in establishing the amount of drifts present at the Earth from solar minimum to maximum solar activity in both magnetic cycles.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

No

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