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Results of the recalculation of the cosmic-ray modulation parameters

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The propagation of cosmic rays through the heliosphere is subjected to modulation. This propagation can be described by the Parker Transport Equation. Two simple approximations of this equation are the convection-diffusion and the force-field approaches. The solutions of these equations contain the modulation parameter M and the modulation potential ϕ , respectively. Usoskin et al. (2011) used the force-field approach to calculate monthly values for ϕ for the period from 1936 to 2009. We recalculated the modulation parameters using revised, more accurate atmospheric yield functions for the production of secondary cosmic rays, as well as the most recent estimates of the LIS derived from Voyager observations. The results are reported.

Collaboration

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