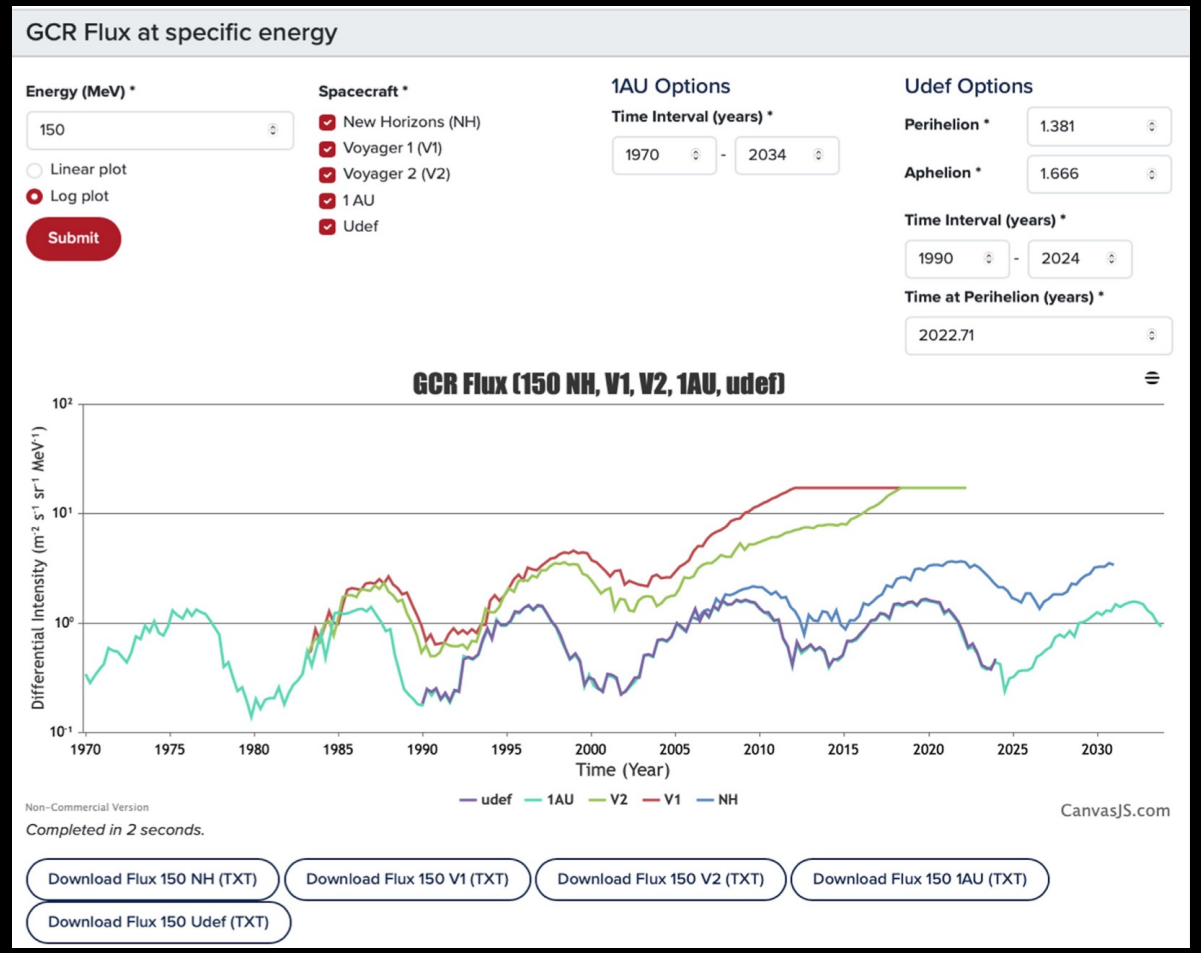
A NEW WEB-BASED TOOL FOR GALACTIC COSMIC RAYS IN THE HELIOSPHERE

GCRs are critical for **space mission design** and **space-weather predictions**. Existing models (e.g., *HelMod*) are less accessible for rapid analyses and are not particularly user-friendly. There is a strong need for a **fast**, **user-friendly**, and **easily accessible** tool for GCR predictions.

This new web-based tool provides **instant predictions** of GCR **fluxes** (both at a specific energy and energy-integrated), **energy spectra**, and **solar modulation** using the **force-field approximation.** Reconstructions extend back to ~**1000 years** at 1AU, based on **tree ring measurements** (*Brehm et al. 2025*). The tool is designed for a **broad range of users,** including researchers, students, and the general public. It features a **spacecraft data repository** as well as an **introductory section** describing GCRs, the heliosphere, and the underlying modeling approach. **Multiple spacecraft options** are available (Voyager 1, Voyager 2, New Horizons), together with a **user-defined** option. The tool is **updated monthly** with the latest sunspot data and provides forecasts up to ~**10 years** ahead.



Example output from the GCR flux at specific energy section of the web-based tool, showing predictions at 150 MeV for different spacecraft options, including 1AU and user-defined case with Mars-specific parameters.

Puzzoni et al. *ASR*, [2026]; *https://doi.org/10.1016/j.asr.2026.04.121*