

Stellar and solar Inverse Compton emission computation with StellarICs

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We present the software StellarICs in development since 2013, year of the first release.

Summary

StellarICs is software to compute gamma-ray emission from inverse-Compton scattering by cosmic-ray leptons in the heliosphere and in the photospheres of stars. It includes a formulation of modulation in the heliosphere, but can be used for any user-defined modulation model. Profiles and spectra are output to FITS files in a variety of forms for convenient use. Also included are general-purpose inverse-Compton routines with other features like energy loss rates and emissivity for any user-defined target photon and lepton spectra. The software is publicly available and it is under continuing development.

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