

Executive summary for “Simulations of the cosmic-ray anisotropy down to TeV energies”:

- *What is this contribution about?*

It presents the results of numerical simulations of the TeV cosmic-ray anisotropy, made by propagating individual cosmic-rays in synthetic 3D turbulent magnetic fields.

- *Why is it relevant / interesting?*

These simulations are the first ones that reach realistically low cosmic-ray energies, for realistic outer scales and coherence lengths of the interstellar turbulence – Previous simulations were made for higher cosmic-ray energies.

- *What have we done?*

We propagate individual cosmic-rays in synthetic 3D turbulent magnetic fields, with a Kolmogorov power spectrum and with realistic values for the outer scale (~ 100 pc).

- *What is the result?*

We find that the large-scale anisotropy aligns with the direction of the local magnetic field line at the observer’s location; that the shape of this anisotropy is non-dipolar; and that “non-gyrotropic”, smaller-scale anisotropies appear too, with an amplitude that depends on the local level of turbulence on gyroresonant scales.