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The true anisotropy of TeV cosmic rays in the local interstellar medium

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The Earth resides deep in the heliosphere. The trajectories of CRs measured in air shower experiments are affected by the electromagnetic fields of the heliosphere and disturbed LISM surrounding it. This may severely distort anisotropy maps. To study the properties of interstellar CRs, we should first remove the heliospheric influence. Recent advances in the heliospheric modeling based on observations from Voyager and IBEX have made it possible. In this paper, we reconstruct the anisotropy of TeV CRs in the pristine LISM. The results show a potential source of CR anisotropy and shed light onto the mechanisms of CR transport in the ISM.

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