

Turnaround physics beyond spherical symmetry

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The concept of turnaround radius in an accelerating universe is generalized to arbitrarily large deviations from spherical symmetry, as needed for astronomical observations. As an application, the turnaround surface is characterized when deviations from spherical symmetry are small and is extended to scalar-tensor gravity. An independent approach for small non-sphericities using the Hawking quasilocal energy produces the same result.

[Based on A Giusti & V. Faraoni 2021, Phys. Rev. D 103, 044049 (arXiv:1911.05130); 2019, Phys. Dark Universe 26, 100353 (arXiv:1905.04263)]

Reference to paper (DOI or arXiv)

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