

Special Issue

The Role of Halo Substructure in Gamma-Ray Dark Matter Searches

Message from the Guest Editors

An important open question today is the understanding of the relevance that dark matter (DM) halo substructure may have for DM searches. In the standard cosmological framework, subhalos are predicted to be largely abundant inside larger halos. With this Special Issue we aim to summarize where we stand today on our knowledge of the different

- Formation and evolution of halo substructure: merging and accretion, survival and disruption.
- Structural properties of subhalos. Subhalo DM density profiles, concentrations.
- N-body cosmological simulations as a tool for understanding halo substructure.
- Observations of dwarf galaxies in the Milky Way. Current and upcoming surveys (DES, LSST...).
- Indirect detection of DM in dwarf galaxies.
- Search for "dark satellites". Unidentified gamma-ray sources.
- Substructure boosts to DM annihilation signals.
- Lensing as a probe of halo substructure.
- Stellar gaps in stellar streams induced by DM subhalos.

Guest Editors

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About the Journal

Message from the Editorial Board

Galaxies provides an advanced forum for studies related to astronomy, astrophysics, and cosmology, including all of their subfields. Different formats, such as specialized research articles, reviews, communications and technical notes are welcomed. Manuscripts containing original and creative research proposals and ideas are especially appreciated.

We encourage scientists to publish their astronomical observations and theoretical results in as much detail as possible. There is no restriction on the paper length and full experimental and methodological details, as applicable, should be provided. All papers will be peer reviewed promptly. On behalf of the distinguished members of the editorial board, I extend my welcome to all researchers working on these subjects to contribute to *Galaxies*.

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