

Boost factor analysis for dark matter annihilation in Galaxy Clusters

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The HAWC Observatory is able to perform dark matter (DM) searches for annihilation or decay of TeV candidates. In the case of annihilation of DM particles, sub-structure enhancement in highly extended sources is important, and it is described through the astrophysical J factor. A related quantity is the boost factor, which quantifies how large the enhancement can be due to sub-structure effects and others, such as the presence of baryons. We computed the J factor for the Virgo Cluster using several configurations for spatial and mass distributions of sub-structure, as well as concentration parameters, to evaluate the expected boost factor for the Virgo Cluster.

Summary

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