

Suggestion for a Possible Test of the RAR Model by the Cosmic Microwave Background

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Ruffini-Arguelles-Rueda (RAR) proposed that a self-gravitating gas of degenerate massive sterile neutrinos (or neutralinos) that forms a fully degenerate core, could not only explain the super-massive black holes that lie at the cores of galaxies (some of which date to very early times) but also provide the dark matter. Here we suggest that baryons would also fall into the gravitational wells of the degenerate cores at early times and leave an imprint on the cosmic microwave background (CMB). We provide a calculation of the capture of the baryons in the degenerate cores and suggest that the resultant imprint on the CMB could provide a test of the RAR model.

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