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Isolated galaxy simulations in the multicomponent DM model with full baryonic feedback[1] KEITA TODOROKI, MIKHAIL MEDVEDEV, Univ of Kansas, MARK VOGELSBERGER, MIT — The conventional LCDM model is highly successful at describing the large-scale structure formation of the universe. However, tensions of LCDM on small – galactic and sub-galactic – scales indicate that slight modifications to the DM physics may be needed. The simplest two-component DM (2cDM) model with inelastic interactions has recently been shown to robustly resolve the small-scale problems in N-body cosmological DM-only simulations [1,2]. Here we further explore the model in an isolated galaxy simulations with the full, state-of-the-art baryonic feedback used in IllustrisTNG simulations. Our preliminary results show that the inelastic DM interactions lead to certain heating of the central parts of the galaxy akin to the effect of the stellar and SN outflow feedback. We discuss observational predictions following from our study. [1,2] K. Todoroki, M.V. Medvedev, MNRAS, 483, 3983 (2019); MNRAS, 483, 4004 (2019)

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