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Inflows and Outflows of Metals in the Circumgalactic Medium of IllustrisTNG Galaxies

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The circumgalactic medium (CGM) is a critical repository for metals around galaxies, and serves as the meeting ground for galactic outflows and infalling material from the intergalactic medium. We study the net flow of metals through the CGM in the IllustrisTNG galaxy formation simulations, with a particular focus on the geometry and radial distribution of metal flows. Special care is taken to account for “fuzz” particles, which are often missed by traditional methods of selecting CGM particles in the Illustris simulations, but dominate the net outflow of gas around massive galaxies near the virial radius.