

O VI in the CGM: Dependence on z and galaxy mass.

Roca-Fabrega, S.¹, and Dekel, A.²

¹ Departamento de Física de la Tierra y Astrofísica, Universidad Complutense de Madrid

² Racah Institute of Physics, The Hebrew University of Jerusalem

Abstract

We study the components of cool and warm/hot gas in the circumgalactic medium (CGM) of simulated galaxies and address the relative production of OVI by photoionization versus collisional ionization, as a function of halo mass, redshift, and distance from the galaxy halo center. We find that collisional ionization by thermal electrons dominates at high redshift, while photoionization of cool or warm gas by the metagalactic radiation takes over near $z=2$. In massive halos collisions become important again at low redshift while photoionization remains dominant for less massive halos down to $z=0$.