



# Intergalactic Gas in Groups of Galaxies: Implications for Dwarf Spheroidal Formation and The Missing Baryons Problem

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Radio galaxies with bent jets are predominantly located in groups and clusters of galaxies. We use bent-double radio sources, under the assumption that their jets are bent by ram-pressure, to probe intragroup medium (IGM) gas densities in galaxy groups. This method provides a direct measurement of the intergalactic gas density and allows us to probe IGM gas at large radii and in systems whose IGM is too cool to be detected by the current generation of X-ray telescopes. We find gas with densities of  $10^{-3}$ - $10^{-4}$  per cubic centimeter at group radii from 15-700 kpc. A rough estimate of the total baryonic mass in intergalactic gas is consistent with the missing baryons being located in the IGM of galaxy groups. The neutral gas will be easily stripped from dwarf galaxies with total masses of  $10^6$ - $10^7$  solar masses in the groups studied here. Indications are that IGM gas densities in less-massive systems like the Local Group should be high enough to strip gas from dwarfs like Leo T and, in combination with tides, produce dwarf spheroidals.

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