

THE INTERACTION OF JETS WITH OBSTACLES

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Extragalactic jets are launched from the innermost regions of galaxies, near the central supermassive black hole. As they propagate, they must cross the whole galaxy, and in this process they interact with a variety of obstacles; including gas clouds, populations of stars or even supernova remnants. The interaction between jets and penetrating obstacles has been studied as a possible method for jet mass-loading and deceleration, as well as of production of gamma-ray emission, through non-thermal particles accelerated in shocks. Interaction with individual objects, such as stars or gas clouds, can explain both rapid variability in blazars, and gamma-ray flares. Interaction with whole populations of obstacles, however, may lead to the production of persistent gamma-ray emission.

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