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## Multi-messenger Astroparticle with Clusters of Galaxies

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Relativistic particles are revealed in clusters of galaxies from observations of diffuse synchrotron radio emission. At least part of this emission can be originated by secondary electrons produced by cosmic-ray protons interacting with the protons of the intra-cluster medium. This should be accompanied by the production of gamma rays, potentially detectable by the Fermi satellite and Cherenkov telescopes, and neutrinos, potentially detectable by IceCube. I will present the latest constraints and predictions.

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