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Multiple shock acceleration in AGN jets

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Radiogalaxies are the subclass of active galactic nuclei where large-scale relativistic jets are detected. In this work we study the acceleration of particles in a multiple shock scenario produced by the collision of the relativistic jets with embedded massive stars. We solve the transport equation taking into account not only the spatial and radiative losses but also the collective effect of the shocks and the possible reacceleration, and evaluate the maximum energies that the particles can achieve. Finally, we compute the gamma-ray emission expected in this scenario and discuss the detection possibilities.

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