



Particle acceleration in astrophysical jets at all scales

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Astrophysical jets at all scales produce shocks where particles are accelerated via Diffusive Shock Acceleration. Magnetic turbulence is the key ingredient for determining the maximum energy that particles can achieve, and this has important implications for different fields in Astrophysics. In particular, one of the most exciting and unsolved problems is the origin of the Ultra High Energy Cosmic Rays. These particles have an energy of about 100 EeV and arrive on the Earth from outside the Galaxy. Extragalactic jets from Active Galactic Nuclei have been proposed as sources of Ultra High Energy Cosmic Rays. In the TeV domain, a large fraction of gamma-ray sources in the Galaxy remain unidentified, and jets from protostars are among candidates to be the hidden cosmic-ray accelerators and gamma-ray emitters. I will present an overview of astrophysical jets at different scales. I will discuss magnetic turbulence created by the streaming of accelerated particles, and its relevance for the acceleration of ultra-high energy cosmic rays and gamma-ray emission.

References

The references related to your talks will be used to write summary paper in RMPP (Rev. Mod. Plasma Phys.). So do not miss important papers related to your talk.

Figure xx

Note: Abstract should be in (full) double-columned one page.

