

## Acceleration of cosmic rays in shocks and reconnection sites

*Thursday 12 September 2013 10:00 (1 hour)*

I shall review the advances of our understanding of the First order Fermi acceleration of particles in shocks and sites of magnetic reconnection. I shall discuss how magnetic field generation in the shock precursor allows to accelerate cosmic rays to higher energies and how cosmic ray superdiffusion changes the accepted acceleration picture. I shall also discuss the process of fast reconnection of turbulent magnetic field and how this process provides efficient cosmic ray acceleration.

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