

Abstract Submitted  
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**Dynamics and dissipation in magnetically-dominated astrophysical outflows** MAXIM LYUTIKOV, UBC — Magnetic fields play crucial role in launching and collimation of relativistic outflows. Far away from the central source the fate of magnetic field remains unclear: they may either transfer their energy to matter or may remain dominant until very large distances. These two possibilities lead to different paradigms for particle acceleration: shocks in matter-dominated jets and magnetic dissipation in Poynting flux-dominated jets. I will discuss plasma physics issues specific to dynamics and dissipation in magnetically-dominated astrophysical plasma. I will then compare observational consequences of the two paradigms and discuss how they fare against phenomenology of Gamma Ray Bursts.

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