Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Particle acceleration in astrophysical collisionless shocks ANATOLY SPITKOVSKY, Princeton University — I will review the properties of astrophysical shocks related to their roles as accelerators of energetic particles. Ab-initio simulations of collisionless shock structure reveal different regimes of particle injection and acceleration as a function of shock parameters, including magnetization of the flow and magnetic geometry in the upstream. These regimes can be used to interpret high-energy observations of astrophysical sources, such as supernova remnants and gamma-ray bursts, and can guide the design of experiments to study shock acceleration physics in the laboratory.

Anatoly Spitkovsky
Princeton University

Date submitted: 24 Jul 2015 Electronic form version 1.4