

Talk at Splinter Meeting

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SOURCE MODELS AND PROPAGATION OF NON-THERMAL PARTICLES

M. Pohl^{1,2}

¹*DESY, 15738 Zeuthen, Germany*

²*Institute of Physics and Astronomy, University of Potsdam, 14476 Potsdam,
Germany*

To decipher the acceleration and propagation mechanisms of energetic particles, a better understanding of relativistic plasmas is needed. In recent years we have seen a tremendous progress in observational capabilities and theoretical methods that represents a unique opportunity to gain critical insight into the physics of cosmic energetic particles. Energetic charged particles scatter off magnetic inhomogeneities, e.g., in the form of magnetohydrodynamic (MHD) waves. The mutual shaping of waves and particle distributions determines the efficacy of acceleration, the spectra of particles inside the sources and at the observer, and the emission produced. This talk will give an overview of recent results in modeling sources and propagation of non-thermal particles.