

Gyro-resonant scattering of energetic electrons by whistler mode waves in the Earth's magnetosphere has been investigated extensively with theory, and computer simulations. One of the most prevalent naturally occurring plasma waves is magnetospheric chorus. Chorus emissions are generally composed of discrete, quasi-coherent, rising frequency tones and are very similar in spectral structure to free running triggered emissions. Chorus is known to accelerate radiation belt electrons to relativistic energies and thus plays an important role in the structure of the radiation belts. Chorus is generally believed to emerge through interactions with counter streaming resonant electrons with a large temperature anisotropy. As the wave amplitude grows, phase trapping of resonant electrons leads to more complicated non-linear phenomena that can significantly perturb particle trajectories from their adiabatic orbits. Correctly modeling the motion of energetic electrons during chorus generation can help understand both the generation of chorus waves as well as the simultaneous scattering of radiation belt particles. Particle scattering is generally considered by either calculating quasi-linear diffusion coefficients or tracking test particles through postulated waves. Given the quasi-coherent structure of chorus waves, diffusion coefficients may not be an accurate description. Although tracking test particles is more physically accurate, it is not possible without space-time data of chorus (ex. in situ measurements). In order to obtain space-time data of chorus, we use the results of a self-consistent PIC simulation of chorus waves. Using the same initial particle distribution as in the chorus simulation, we consider the cumulative effect of the generated chorus on pitch angle scattering and particle precipitation. In addition, we judge the validity of standard diffusion coefficients when applied to magnetospheric chorus.