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Fast Analytical-Numerical Hybrid Methods for Solving the Cosmic Ray Fokker-Planck Equation

When energetic particles such as cosmic rays travel through magnetized plasma, they encounter turbulent magnetic fields. This in turn renders the equation of motion very difficult to apply. Hence, we instead work with the Fokker-Planck partial differential equation, which gives us the probability of finding the particle at a certain time, position, and velocity. Here, we talk about methods which allow for fast solving the Fokker-Planck equation.