

## **Stochastic approach to particle acceleration at supernova blast wave**

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Stochastic simulation is well-known for solving diffusion problems. We present a method for solving the problem of the particle acceleration at supernova blast wave and evaluating a distribution of accelerated particle in the supernova remnants in different times (phases) of the supernova explosion. Method is based on a physically motivated algorithm for solving Parker's diffusion-convection transport equation for energetic charged particles in the presence of arbitrary thin discontinuities such as shocks. Compression of surrounding uniform magnetic field by supernova explosion and fluid velocity in downstream region are described by similarity solution.