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## Superdiffusive transport in the geospace environments with shear flows

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Analytical and numerical simulations' data show that the transport of energetic particles in the presence of magnetic turbulence can be superdiffusive. The so-called anomalous transport has gained growing attention during the last two decades in many fields including laboratory plasma physics, and recently in astrophysics and space physics. Here the examples, both from laboratory and from astrophysical plasmas are shown, where superdiffusive transport has been identified, with a focus on what could be the main influence of superdiffusion on fundamental processes like diffusive shock acceleration and heliospheric energetic particle propagation. The use of fractional derivatives in the diffusion equation is also discussed, and directions of future investigations are indicated.

### Biography

In 2006 she has completed her PhD at the age of 29 years from Iv. Javkhisvili Tbilisi state University and postdoctoral studies from M. Nodia Institute of Geophysics. She is the team leader of the group of ionospheric studies at the Tbilisi State University. She has published more than 70 papers in reputed journals.

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