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The influence of the finite velocity on spatial distribution of particles in the frame of Levy walk model

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***Highlights (for review)**

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- The equation for the statistical moments in multivariate space was obtained in common case.
- The asymptotics for the statistical moments for power-law distribution of the free paths were obtained.
- The distribution of particles in the case of the Levy walks was reconstructed in one-dimensional and three-dimensional cases.
- The influence of the finite speed of a motion on the spatial distribution of particles is revealed.
- The conditions under which the asymptotic solutions can be used for the description of the walk process under consideration are established

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