

Quasi-fractals: New possibilities in description of disordered media

Nigmatullin R., Alekhin A.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

New generalization of fractals named as quasi-fractals (QF) is introduced for description of wide class of disordered media. The numerical calculations show that new fractal objects have wide region of applicability and can be used for description of fractals obtained by the diffusion-limited aggregation (DLA) procedure and for distorted lattices. These new facts found give new possibilities to apply the methods of the mathematics of the fractional calculus for description of relaxation and transport phenomena in disordered and heterogeneous systems. © 2007 Springer.

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Keywords

disordered media, fractional calculus, Quasi-fractals