

The fractional differential equation and Levy stable distributions

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I will briefly report the experiments in which the photoluminescence of silicon nanocrystals was observed. I will incorporate the tools of Levy distribution to make a phenomenological description of it. I will show that the dynamics leading to photoluminescence decay is an anomalous diffusion type and it can be modeled in terms of fractional Fokker–Planck equation. Then, I will show the method of solving such kind of equations.