LÉVY PHOTON STATISTICS IN BLINKING QUANTUM DOTS

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We discuss the theory of blinking quantum dots. These systems exhibit non-ergodic, and non-stationary kinetics. The mean on and off mean off time diverge. We show that Mandel’s Q parameter, describing the fluctuations in this system, exhibits a new type of behavior, it increases with measurement time, even in the long time limit. In this case photon counts are described using Lévy statistics. Possible explanations of the power law kinetics are discussed.