



# Memory in the Photon Statistics of Multilevel Quantum Systems

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The statistics of photons emitted by single multilevel systems is investigated with emphasis on the nonrenewal characteristics of the photon-arrival times. We consider the correlation between consecutive interphoton times and present closed form expressions for the corresponding multiple moment analysis. Based on the moments a memory measure is proposed which provides an easy way of gaging the non-renewal statistics. Monte-Carlo simulations demonstrate that the experimental verification of non-renewal statistics is feasible.

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