Nonlinear Optics

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1 Introduction

Nonlinear optics,

All current schemes for linear optical quantum computing rely on nonlinear optical effects. Discrete variable computation requires single photons, the most popular current methods use Nonlinear effects such as heralding on a parametric process, Spontaneous Parametric Down Conversion (SPDC) or Spontaneous Four Wave Mixing (SFWM). Non parametric nonlinear processes such as the light-matter interaction in quantum dots are also being used as single photon sources.

Continuous variable (CV) quantum computation is built up from nonlinear optics, CV computing is much younger