

Abstract Submitted
for the DAMOP17 Meeting of
The American Physical Society

Shaping single photons and biphotons by inherent losses and grating defects CHUNG-YAO YANG, CHIH-SUNG CHUU, WEI-MING SU, RAVIKUMAR CHINNARASU, CHANG-HAU KUO, National Tsing Hua University — Inherent loss is always to be avoided in generating single photons or biphotons, but interestingly it provides opportunities for manipulating the photon wave packet. In this talk we show how inherent loss in parametric down-conversion can be employed to tailor the wave packets of single photons and biphotons. As an example, we propose a scheme to realize a single photon in a single cycle using inherent loss. Our work has potential applications in quantum communication, quantum computation, and quantum interface.

Chih-Sung Chuu
National Tsing Hua University

Date submitted: 16 May 2017

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