Turkish Journal

of

Physics

Keywords
Authors

phys@tubitak.gov.tr

Scientific Journals Home Page

Turkish Journal of Physics

Quantum State Generation and Entanglement Manipulation Using Linear Optics

Şahin Kaya ÖZDEMİR, Takashi YAMAMOTO, Masato KOASHI
CREST Research Team for Interacting Carrier Electronics,
The Graduate University for Advanced Studies
(SOKENDAI), Hayama, Kanagawa 240-0193, Japan Nobuyuki IMOTO
CREST Research Team for Interacting Carrier Electronics,
The Graduate University for Advanced Studies
(SOKENDAI), Hayama, Kanagawa 240-0193, Japan
NTT Basic Research Laboratories, 3-1 Morinosato Wakamiya,
Atsugi, Kanagawa 243-0198, Japan

Abstract: Quantum information processing (QIP) requires unitary operations, measurements and synthesis, manipulation and characterization of arbitrary quantum states. Linear optics provides efficient tools for these purposes. In this review paper, we introduce the elements of linear optics toolbox, and briefly discuss some experimental and theoretical investigations using this toolbox. Our main focus will be the qubit state generation and entanglement extraction using linear optics toolbox.

Key Words: linear optics, quantum state, entanglement manipulation

Turk. J. Phys., **27**, (2003), 459-480.
Full text: pdf
Other articles published in the same issue: Turk. J. Phys.,vol.27,iss.5.