Entangled Fractional Fourier Transform for the Multipartite Entangled State Representation

QIAN Xiao-Qing and SONG Tong-Qiang

Department of Physics, Ningbo University, Ningbo 315211, China
(Received: 2005-9-9; Revised: 2006-1-5)

Abstract: We deduce entangled fractional Fourier transformation (EFFT) for the multipartite entangled state representation, which was newly constructed with two mutually conjugate n-mode entangled states of continuum variables in n-mode Fock space. We establish a formalism of EFFT for quantum mechanical wave functions, which provides us a convenient way to derive some wave functions. We find that the eigenmode of EFFT is different from the usual Hermite Polynomials. We also derive the EFFT of the n-mode squeezed state.

[Full text: PDF]

Close