## 2006 Vol. 45 No. 5 pp. 845-848 DOI:

On Diagonal P-Representation of Superposition Field of Two Light Modes FAN Hong-Yi<sup>1,2</sup>

- $^{
  m 1}$  Department of Material Science and Engineering, University of Science and Technology of China, Hefei 230026, China
- <sup>2</sup> Department of Physics, Shanghai Jiao Tong University, Shanghai 200030, China (Received: 2005-1-6; Revised: )

Abstract: For the superposition field  $a_1^\dagger + a_2^\dagger$  of two light modes we introduce an appropriate diagonal P-representation which is constructed on the common eigenvectors  $|z,x\rangle$  of  $(X_1-X_2)$  and  $a_1+a_2$ , where  $X_i=(a_i+a_i^\dagger)/\surd(2)$ ,  $[a_i,a_i^\dagger]=\delta_{ij}$ . It is remarkable that  $|z,x\rangle$  make up a new quantum mechanical representation.

PACS: 03.65.-w, 42.50.Dv

Key words: superposition fields, diagonal P-representation, coherent-entangled

state representation

[Full text: PDF]

Close