Phase Properties of Two-Mode Squeezing-Rotating Entangled Representation

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Abstract: By virtue of the squeezing-rotating entangled representation, we mainly establish the new two-mode phase operator and phase angle operator, which is a general form including the foregoing formalist in two-mode Fock space. In addition, the corresponding phase distribution function is given in the entangled representation. In terms of this definition, we also analyze the phase behavior of some simple two-mode states such as squeezing-rotating coherent state, squeezing-rotating vacuum state, and so on. It is found that the results exactly agree with the foregoing phase theory.

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