Continuous Multipartite Entangled Representation and Its WignerOperator and Marginal Distribution

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Abstract: By extending the EPR bipartite entanglement to multipartite case, we briefly introduce a continuous multipartite entangled representation and its canonical conjugate state in the multi-mode Fock space, analyze their Schmidt decompositions and give their entangling operators. Furthermore, based on the above analysis we also find the n-mode Wigner operator. In doing so we may identify the physical meaning of the marginal distribution of the Wigner function.

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