

Abstract Submitted
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Quantum secret sharing with continuous variable cluster states

HOI KWAN LAU, CHRISTIAN WEEDBROOK, University of Toronto — We extend the idea of cluster state quantum secret sharing to the continuous variable regime. Both classical and quantum information can be shared by distributing finitely squeezed continuous variable cluster states through either secure or insecure channels. We show that the security key rate of the classical information sharing can be obtained by standard continuous variable quantum key distribution techniques. We analyse the performance of quantum state sharing by computing the shared entanglement of between the authorised parties and the dealer. Our techniques can be applied to analyse the security of general continuous variable quantum secret sharing.

Hoi Kwan Lau
University of Toronto

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