
Pulsed 3D Cluster States for CV Quantum Computing

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Short description:

The success of measurement-based continuous-variable (CV) quantum computing relies on overcoming key experimental challenges, including efficient squeezing generation, loss mitigation, and precise phase control in optical fibres. We present our experimental progress in developing high-efficiency pulsed squeezing, stabilizing fibre links for long-distance optical coherence, and implementing phase-locking techniques to generate a pulsed 3D cluster state. This state lays the groundwork for future implementations of measurement-based quantum computing, including the realization of a scalable Gaussian Boson Sampling experiment.