Abstract Submitted
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Growing Tree Clusters via Local Complementation YAAKOV WEINSTEIN, Mitre Corp — Tree clusters have become the proposed building block for cluster state quantum computation and all-optical quantum repeaters. In this talk we propose novel methods of constructing tree type cluster states by exploiting local complementation to manipulate graph edges. This includes more efficient construction of so-called rake states and a protocol to deterministically construct {2,2} cluster trees from 9 qubit linear clusters. These clusters can be connected as needed to form larger trees.

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