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Constructions of new quantum burst-correcting codes.


Summary: Quantum burst-correcting codes play an important role in not only quantum communication but also quantum computation. However, few quantum burst-correcting codes have been known so far. In this letter, we present the constructions of quantum burst-correcting codes based on BCH codes. Moreover, some of these quantum burst-correcting codes have parameters better than those obtained from other known constructions. Finally, we prove that asymptotically good quantum burst-correcting codes exist.

Keywords: quantum code; quantum burst-correcting code; BCH code

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