Arvind, V.; Kurur, P. P.; Parthasarathy, K. R.
Non-stabilizer quantum codes from Abelian subgroups of the error group. (English)

Summary: This paper is motivated by the computer-generated nonadditive code described in Rains et al cite rains97nonadditive. We describe a theory of non-stabilizer codes of which the nonadditive code of Rains et al is an example. Furthermore, we give a general strategy of constructing good nonstabilizer codes from good stabilizer codes and give some explicit constructions and asymptotically good nonstabilizer codes. Like in the case of stabilizer codes, we can design fairly efficient encoding and decoding procedures.

MSC:
81P68 Quantum computation

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