Abstract

In this talk, given two Hermitian self-orthogonal GRS codes GRS_k1(A, v_A) and GRS_k2(B, v_B), we propose a sufficient condition to ensure that GRS_k(A∪B, v_A∪B) is still a Hermitian self-orthogonal code. Consequently, we first present a new general construction of infinitely families of quantum MDS codes from known ones. Moreover, applying the trace function and norm function over finite fields, we give another two new constructions of quantum MDS codes with flexible parameters. It turns out that the forms of the lengths of our quantum MDS codes are quite different from previous known results in the literature. Meanwhile, the minimum distances of all the q-ary quantum MDS codes are bigger than q/2 + 1.