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Groups of isometries of additive codes over $GF(q)$

When q is a prime p, every additive code C over $GF(p)$ is a linear code, and every linear Hamming isometry of C to itself extends to a monomial transformation. However, when q is a prime power p^ℓ, $\ell \geq 2$, then an additive code C over $GF(q)$ is not necessarily linear, and there can exist additive Hamming isometries from C to itself that are not monomial. In fact, if H_1 and H_2 are any subgroups of $GL(n,p)$ satisfying $H_1 \subseteq H_2 \subseteq GL(n,p)$, together with some natural geometric hypotheses, then there exists an additive code C over $GF(q)$ of dimension n over $GF(p)$ whose group of self-isometries is H_2 while its group of monomial self-maps is H_1.