1154-94-1837 **Maria Bras-Amorós**, **Iwan Duursma** and **Euijin Hong*** (euijin.hong@colorado.edu).

Isometry-Dual Flags of AG Codes.

Consider a complete flag $\{0\} = C_0 < C_1 < \cdots < C_n = \mathbb{F}^n$ of one-point AG codes of length n over a finite field $\mathbb{F}$. The codes are defined by evaluating functions with poles at a given point Q in points $P_1, \ldots, P_n$ distinct from Q. A flag is isometry-dual if the given flag and its dual flag are the same up to isometry. For curves, including the projective line, Hermitian curves, Suzuki curves, Ree curves, and the Klein curve over the field of eight elements, the maximal flag, obtained by evaluation in all rational points different from the point Q, is self-dual. More generally, we ask whether a flag obtained by evaluation in a proper subset of rational points is isometry-dual. For a curve of genus g, a flag of one-point AG codes defined with a subset of $n > 2g+2$ rational points is isometry-dual if and only if the last code C_n in the flag is defined with functions of pole order at most $n+2g-1$. We extend this characterization to all subsets of size $n \geq 2g+2$ and show that this is best possible. We also prove a necessary condition, formulated in terms of maximum sparse ideals of the Weierstrass semigroup of Q, under which a flag of punctured one-point AG codes inherits the isometry-dual property from the original unpunctured one. (Received September 16, 2019)