1112-14-345 **Ivan Soprunov*** (i.soprunov@csuohio.edu), 2121 Euclid Ave, Cleveland, OH 44115. *Self-dual codes from smooth Fano polytopes.* Preliminary report.

We consider a class of evaluation codes called toric complete intersection codes (TCIC), which is a natural generalization of the Reed-Muller code from the projective space to other toric varieties. A TCIC is given by evaluating a space of m-variate Laurent polynomials over the solution set of a system of m polynomials with prescribed Newton polytopes $P_1, \ldots, P_m$ in $\mathbb{R}^m$. We investigate when a TCIC is self-dual. Previously, together with Pinar Celebi Demirarslan we showed that when $m = 2$ and P_1, P_2 are dilates of a single polygon P then a self-dual TCIC exists if and only if P is lattice equivalent to one of the 16 Fano polygons. I will talk about this connection for higher-dimensional smooth Fano polytopes. (Received August 08, 2015)