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Heide Gluesing-Luerssen and **Carolyn Troha*** (carolyn.troha@uky.edu). *Irreducible Cyclic Orbit Codes.*

After subspace codes were introduced in 2008 by Koetter and Kschischang most constructions involved the lifting of matrix codes. However, Rosenthal et al. introduced in 2011 a new method of constructing constant dimension subspace codes by using a group action of $GL_n(\mathbb{F}_q)$ on $PG(q, n)$, called orbit codes. A specific subset of these codes, which have been studied more in depth, are irreducible cyclic orbit codes. In this talk, I will introduce the construction of an irreducible cyclic orbit code as well as explore a method to find the cardinality and distance of such a code. This is based on joint work with Heide Gluesing-Luerssen. (Received August 12, 2013)