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Keith E. Mellinger* (kmelling@umw.edu), Department of Mathematics, University of Mary Washington, 1301 College Avenue, Fredericksburg, VA 22401-5358, and **Tim Alderson**. *Optical Orthogonal Codes from Arcs in Root Subspaces*. Preliminary report.

We present new constructions for (n, w, λ) optical orthogonal codes (OOC) using techniques from finite projective geometry. In one case codewords correspond to $(q - 1)$ -arcs contained in Baer subspaces (and, in general, k^{th} -root subspaces) of a projective space. In the other construction, we use sublines isomorphic to $PG(1, q)$ lying in a projective plane isomorphic to $PG(1, q^k)$, $k > 1$. Our construction yields for each $\lambda > 1$ an infinite family of OOCs which, in many cases, are asymptotically optimal with respect to the Johnson bound. (Received June 19, 2006)