1020-51-11   **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)