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Brownsville, TX 78520. *Steiner porism and spherical codes*. Preliminary report.

Suppose we have a chain of  $k$  circles all of which are tangent to two given non-intersecting circles  $S_1, S_2$ , and each circle in the chain is tangent to the previous and next circles in the chain. Then, any other circle  $C$  that is tangent to  $S_1$  and  $S_2$  along the same bisector is also part of a similar chain of  $k$  circles. This fact is known as *Steiner's porism*. *Soddy's hexlet* is a chain of six spheres each of which is tangent to both of its neighbors and also to three mutually tangent given spheres. In this talk we consider analogs of Steiner's porism and Soddy's hexlet in higher dimensions via spherical codes. (Received January 24, 2019)