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Mark Mixer* (mark.mixer@gmail.com), **Isabel Hubbard**, **Daniel Pellicer** and **Asia Ivic Weiss**. *Equivelar 4-twistoids*.

Let N be a torsion free, discrete group of isometries of Euclidean n -space. The orbit space \mathbb{E}^n/N is called an n -dimensional space form. It is a consequence of Bieberbach's theorem that there are only finitely many affine equivalence classes of n -dimensional compact Euclidean space forms; in particular there are two classes when $n = 2$, and ten classes when $n = 3$.

Abstract polytopes considered as tessellations of these space forms have been extensively studied when $n = 2$, namely tessellations on the 2-torus and the Klein bottle. In this talk we shall consider 4-polytopes that arise as quotients of the Euclidean tessellation $\{4, 3, 4\}$ by the ten fixed point free crystallographic groups of the Euclidean space. (Received September 22, 2011)