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**Robert M. Sulman\*** ([rms47@psu.edu](mailto:rms47@psu.edu)), Pennsylvania State University, Beaver Campus, Monaca, PA 15061. "*Describing Conjugacy Classes of Properly Discontinuous Affine Groups of Euclidean Space*". Preliminary report.

Up to affine conjugacy, properly discontinuous free abelian affine groups of two and three dimensional Euclidean space are characterized in terms of "coordinates" of generators. For each  $n$  there is a curve  $C$  in Euclidean  $n$ -space, the compliment of which determines a parameter space of properly discontinuous rank two  $n$ -dimensional groups (points on  $C$  correspond to rank two groups that do not act properly discontinuously or cyclic groups). In dimension two each element of  $SL(2, \mathbb{Z})$  can be identified with a normalized member of the conjugacy class of such a group  $G$ . Since  $SL(2, \mathbb{Z})$  is countable and the parameter space is uncountable it follows that there are uncountably many conjugacy classes of properly discontinuous affine groups isomorphic to  $\mathbb{Z} + \mathbb{Z}$  in any dimension (two dimensional generators are extended to act in higher dimensions). In contrast to this, when one considers groups of isometries, there are only finitely many affine conjugacy classes (one of the Bieberbach theorems). (Received September 20, 2007)