COMPUTATION OF FIVE- AND SIX-DIMENSIONAL BIEBERBACH GROUPS

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Abstract. This paper deals with the computation and classification of 5- and 6-dimensional torsion-free crystallographic groups, known as *Bieberbach groups.* We describe the basis of an algorithm that decides torsion-freeness of a crystallographic group as well as the triviality of its centre. The computations were done using the computer package CARAT, which handles enumeration, construction, recognition and comparison problems for crystallographic groups up to dimension 6.

The complete list of isomorphism types of Bieberbach groups up to dimension 6 can be found online.