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**Corey Bregman\*** ([cbregman@brandeis.edu](mailto:cbregman@brandeis.edu)), Goldsmith 218 MS050, 415 South Street,  
Waltham, MA 02453. *Isometries of CAT(0) Cube Complexes and Rank Rigidity.*

We study the isometries of CAT(0) cube complexes, and in particular, those which are not cubical automorphisms. Given a CAT(0) cube complex  $X$ , we prove that its isometry group coincides with its automorphism group unless  $X$  decomposes as a product with a (topological)  $R^n$ , for some  $n$ . As an application, if  $X$  is 1-ended, cocompact and hyperbolic, then  $\text{Aut}(X) = \text{Isom}(X)$  unless  $X$  is quasi-isometric to the hyperbolic plane. We also extend the rank rigidity result of Caprace-Sageev to the full isometry group. (Received January 27, 2020)