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Isometry groups of proper hyperbolic spaces. (English) Zbl 1273.53037
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Summary: Let X be a proper hyperbolic geodesic metric space and let G be a closed subgroup of the isometry group $\text{Iso}(X)$ of X . We show that if G is not elementary then for every $p \in (1, \infty)$ the second continuous bounded cohomology group $H_{cb}^2(G, L^p(G))$ does not vanish. As an application, we derive some structure results for closed subgroups of $\text{Iso}(X)$.

MSC:

[53C24](#) Rigidity results
[20F67](#) Hyperbolic groups and nonpositively curved groups
[20J06](#) Cohomology of groups

Cited in **1** Review
Cited in **7** Documents

Keywords:

[hyperbolic spaces](#); [isometry groups](#); [bounded cohomology](#)

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