

1025-03-271

Maciej Malicki and **Slawomir Solecki*** (ssolecki@math.uiuc.edu), Department of Mathematics, 1409 W. Green St., University of Illinois, Urbana, IL 61801. *Representation of locally compact groups as isometry groups.*

A metric space is called Heine-Borel if all closed balls in it are compact. We prove that each locally compact, second countable group is isomorphic to the full isometry group of a Heine-Borel, second countable metric space. This answers a question of Gao and Kechris and complements earlier results of Gao-Kechris (that each Polish group is isomorphic to the isometry group of a Polish metric space) and Melleray (that each compact, second countable group is isomorphic to the isometry group of a compact, second countable metric space). (Received January 23, 2007)