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Alexandru G Atim* (atima@benedict.edu), 1600 Harden St., Columbia, SC 29204, and
Robert R Kallman, 1155 Union Circle #311430, Denton, TX 76203. *A Property of Isometry
Groups of a Hilbert Space.*

Let G be a Polish group. G is said to be an algebraically determined Polish group if for any Polish group H and any algebraic isomorphism $\varphi : H \rightarrow G$ we have that φ is a topological isomorphism. Let \mathcal{H} be a separable complex Hilbert space and $\mathcal{U}(\mathcal{H})$ be the group of unitary operators acting on \mathcal{H} . The purpose of this paper is to prove that the complex isometry group of \mathcal{H} , $\mathcal{H} \rtimes \mathcal{U}(\mathcal{H})$ is algebraically determined Polish group. Similar results hold for most (but not all) of the finite dimensional complex isometry groups and for their real Hilbert space analogues. (Received August 01, 2011)