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Greg Hjorth* (greg.hjorth@gmail.com), Department of Mathematics and Statistics, University of Melbourne, Parkville, Melbourne, Victoria 3053, Australia. *Descriptive set theory and unitary group representations.*

Given a countable group G and a separable Hilbert space H , we denote the unitary group of H by $U(H)$, and think of the unitary representations as being the collection of homomorphisms from G to $U(H)$. This is a closed subset of the G fold product of $U(H)$, and hence Polish in the product topology.

In the general case of H infinite dimensional, the questions which arise tend to be abstract and susceptible to the techniques of descriptive set theory. I will talk about recent work by set theorists on various issues of Borel complexity for the isomorphism relation of unitary representations. (Received August 09, 2010)