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**Aristotelis Panagiotopoulos\*** (panagio@caltech.edu), California Institute of Technology, Mathematics Department, 253-37, Pasadena, CA 91125, and **Martino Lupini**. *Games orbits play*.

Classification problems occur in all areas of mathematics. Descriptive set theory provides methods to assign complexity to such problems. Using a technique developed by Hjorth, Kechris and Sofronidis proved for example, that the problem of classifying all unitary operators  $\mathcal{U}(\mathcal{H})$  of an infinite dimensional Hilbert space up to unitary equivalence  $\simeq_U$  is strictly more difficult than classifying graph structures with domain  $\mathbb{N}$  up to isomorphism.

We present a game-theoretic approach to anti-classification results for orbit equivalence relations and use this development to reorganize conceptually the proof of Hjorth's turbulence theorem. We also introduce a dynamical criterion for showing that an orbit equivalence relation is not Borel reducible to the orbit equivalence relation induced by a CLI group action; that is, a group which admits a complete left invariant metric (recall that, by a result of Hjorth and Solecki, solvable groups are CLI). We deduce that  $\simeq_U$  is not classifiable by CLI group actions.

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