ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

1. Logic

1991 MS Classification: 03, 04

Sofronidis, Nikolas Efstathiou, Caltech, USA

Non-classification by Countable Structures in spaces of Measures, Self-adjoint and Unitary Operators.

If X is any locally compact, perfect, Polish space and $P(X)$ denotes the Polish space of probability Borel measures on X, equipped with the w^*-toplogy, while $\sim$ denotes measure equivalence on $P(X)$, then $\sim$ does not admit classification by countable structures. In particular, for a complete manifold M, if $\sim_{C^r}$ denotes C^r-measure equivalence on $P(M)$, in the sense that the corresponding Radon-Nikodym derivatives are of the class C^r (r being a natural number or infinity), then $\sim_{C^r}$ does not admit classification by countable structures. If H is any separable complex Hilbert space, while $U(H)$ denotes the Polish group of unitary operators on H and $S_1(H)$ denotes the Polish space of self-adjoint operators on H with norm at most one, both equipped with the strong operator topology, then the conjugation action of $U(H)$ on both $U(H)$ and $S_1(H)$ is generically turbulent