ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

8. Analysis

1991 MS Classification: 46, 19, 20
Manuilov, Vladimir, Moscow State University, Russia
Almost representations of discrete groups and K-theory
Let π be a discrete finitely presented group with generators $g_1, \dots, g_n$ and relators $r_j(g_1, \dots, g_n)$, $j = 1, \dots, m$. A set σ of finite-dimensional unitary matrices $u_1, \dots, u_n$ is called an ε-*almost representation* of π if $\|r_j(u_1, \dots, u_n)\| \leq \varepsilon$.
We discuss the following propery of π: for small enough ε every ε-almost representation σ generates a continuous path of ε_t-almost representations σ_t with $\varepsilon_t \to 0$ while $t \to \infty$ and $\varepsilon_t \leq \delta(\varepsilon)$, where $\delta(\varepsilon) \to 0$ while $\varepsilon \to 0$.
We discuss also K-theoretical applications of almost representations of groups having the form $\pi \times \mathbf{Z}$.