ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

2. Algebra

1991 MS Classification: 17, 46
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Subfactors of a real factor of type III$_\lambda$, $0 < \lambda < 1$
Let $B(H)$ be the algebra of all bounded linear operators on a complex Hilbert space H. A weakly closed real *-subalgebra R in $B(H)$ is called a real W^*-algebra if it contains the identity operator and if $R \cap iR = \{0\}$. Let R be a real factor of type III$_\lambda$, $0 < \lambda < 1$, ψ be a faithful normal state whose modular automorphism group satisfies $\sigma^{\psi}_{T_0} = id$ or $\sigma^{\psi}_{2T_0} = id$, where $T_0 = -2\pi/ln\lambda$. We proved that any real W^*-subalgebra of R, which contains the centralizer R_ψ of ψ, generated by R_ψ and unitary u^k, for some k. Hence, as corollary it follows that if $\mathbf{R}$ is a real W^*-subalgebra of R which contains R_ψ then $mod\alpha_{\mathbf{R}} = mod\alpha_R$, and conversely, if $mod\alpha_R \neq mod\alpha_{Re}$, then there isn't a faithful normal state with $R_\psi \subset \mathbf{R}$, where α_R is an involutive *-antiautomorphism, which generates R, and mod is the fundamental homomorphism of Connes–Giordano.
References: Haagerup U., Stormer E. Subfactors of a factor of type III$_\lambda$ which contain a maximal centralizer. Internat. J. Math. 6, (1995) , 273-277.