ON STRONGLY CONTINUOUS ONE-PARAMETER GROUPS OF HOLOMORPHIC UNIT BALL AUTOMORPHISMS

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Abstract. We prove a structure theorem for strongly continuous one-parameter groups formed by surjective isometries of the space of bounded N-linear functionals over complex Hilbert spaces. Though the result is a natural analogue to Stone's classical theorem covering the case $N = 1$, some crucial arguments of the proof go back to probability theory. As a consequence, we classify the strongly continuous one-parameter automorphism groups of all infinite-dimensional Cartan factors of Jordan theory. We reduce the investigation of the strongly continuous one-parameter groups by non-linear holomorphic automorphism of the unit ball in $\mathcal{L}(H, K)$ to the study of some retarded ordinary differential equations.

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