Mikhail I. Ostrovskii (ostrovsm@stjohns.edu) Department of Mathematics and Computer Science, St. John's University, NY 11439, USA, ***Unitarizable representations and fixed points of groups of biholomorphic transformations of operator balls.***

ABSTRACT. We show that a bounded representation of a group by operators in a Hilbert space which has an invariant indefinite quadratic form with finitely many negative squares is unitarizable (equivalent to a unitary representation). To achieve this goal we use an observation (going back to M. Krein) that operators leaving invariant such indefinite quadratic form correspond to biholomorphic maps of the open unit operator ball B (from a finite-dimensional Hilbert space into an infinite-dimensional). It is not difficult to verify that to get unitarizability we need to show that the obtained group of biholomorphic mappings has a fixed point. To get a fixed point we use such well-known tools as non-diametral points, ball-compactness, and the normal structure. We show that B with Caratheodory metric is ball-compact and has the normal structure. The results are based on a joint work with V.S. Shulman L. Turowska.