Section 10: Functional Analysis | Poster number 57

Generalized W*-Lefschetz numbers

Pavlov Alexandre, Dept. of Mech. and Math., Moscow State University.

ABSTRACT

For an arbitrary von Neumann algebra A we introduce an abelian group $N_0(A)$ in the following way. It is possible to define some equivalence relation between normal elements of the inductive limit $M_\infty(A) = \varinjlim M_r(A)$. Then the set of of all equivalence classes of normal elements from $M\infty(A)$ is an abelian semigroup (with respect to the direct sum operation) and $N_0(A)$ is its symmetrization. Further, we define the (generalized) Lefschetz number (as some element of the group $N_0(A)$) for an arbitrary unitary endomorphism U of an A-elliptic complex. Besides, in the case when U is an element of a representation of some compact group we describe the connection of the generalized Lefschetz numbers with the W*-Lefschetz numbers (of the first type) introduced in a series of papers of E.V. Troitsky [1, 2].

References

[1] *Troitsky E.V* Lefschetz numbers of C*-complexes. *Springer Lecture notes in Math.*, 1991, **1474**, 193-206.

[2] *Troitsky E.V.* Orthogonal complements of Hilbert modules and C*-elliptic complexes. in: *Novikov Conjectures, Index Theorems and Ridgidity V.2* London Math. Soc. Lect. Notes Series, 1995, **227**, 309-331.

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Contact Address: `pavlov@mech.math.msu.su`