

Completions of upper-triangular matrices to Kato nonsingularity

Vladimir Pavlović

University of Niš, Faculty of Science and Mathematics, Niš, SERBIA
[vlada@pmf.ni.ac.rs]

In this paper we consider the problem of completion of the uppertriangular operator matrix $\begin{bmatrix} A & ? \\ 0 & B \end{bmatrix}$, where $A \in \mathcal{B}(\mathcal{H})$ and $B \in \mathcal{B}(\mathcal{K})$, to Kato nonsingular operators and completely solve it in each of the following cases: one of the operators A or B is Kato nonsingular; B is injective; A is with dense range; B is with finite ascent; A is with finite descent; $0 \notin \text{int}(\sigma_p(B))$; $0 \notin \text{int}(\sigma_{cp}(A))$. In particular, the results generalize and complete some of the previously obtained concerning the same problem.

This is a joint work with D. S. Cvetković-Ilić.
