

Houimdi, M.; Zguitti, H.

Local spectral properties of a square matrix of operators. (Propriétés spectrales locales d'une matrice carrée des opérateurs.) (French) [Zbl 0970.47003](#)

Acta Math. Vietnam. 25, No. 2, 137-144 (2000).

Summary: If X and Y are complex Banach spaces, then for $A \in \mathcal{L}(X)$, $B \in \mathcal{L}(Y)$ and $C \in \mathcal{L}(Y, X)$ we denote by M_C the operator defined on $X \oplus Y$ by

$$M_C = \begin{pmatrix} A & C \\ 0 & B \end{pmatrix}.$$

When B has SVEP, we show that $\sigma(M_C) = \sigma(A) \cup \sigma(B)$ for all $C \in \mathcal{L}(Y, X)$. And in the Hilbert space setting, this result gives a partial positive answer to the question 3 posed in [*Hong-Ke Du and Jin Pan*, Proc. Am. Math. Soc. 121, No. 3, 761-766 (1994; [Zbl 0814.47016](#))].

MSC:

[47A11](#) Local spectral properties of linear operators

[47B40](#) Spectral operators, decomposable operators, well-bounded operators, etc.

[47A10](#) Spectrum, resolvent

[47B37](#) Linear operators on special spaces (weighted shifts, operators on sequence spaces, etc.)

Cited in **1** Review
Cited in **9** Documents

Keywords:

local spectral properties; square matrix of operators; decomposable operator