

## A Note on the Stability of Linear Combinations of Algebraic Operators

I. CHALENDAR<sup>1</sup>, E. FRICAIN<sup>1</sup>, D. TIMOTIN<sup>2</sup>

<sup>1</sup>*I. C. J., UFR de Mathématiques, Université de Lyon, Université Lyon 1,  
43 bld. du 11/11/1918, 69622 Villeurbanne Cedex, France*

<sup>2</sup>*Institute of Mathematics of the Romanian Academy, PO Box 1-764,  
Bucharest 014700, Romania*

*chalenda@math.univ-lyon1.fr, fricain@math.univ-lyon1.fr, Dan.Timotin@imar.ro*

Presented by Mostafa Mbekhta

Received April 9, 2008

*Abstract:* The main purpose of this note is to characterize all the algebraic operators  $S$  and  $T$  having the same minimal polynomial and for which certain spectral properties of linear combinations of  $S$  and  $T$  do not depend on their coefficients.

*Key words:* Stability, invertibility, algebraic operator.

*AMS Subject Class. (2000):* 47A05.

### REFERENCES

- [1] J. J. BUONI, R. HARTE, T. WICKSTEAD, Upper and lower Fredholm spectra. I, *Proc. Amer. Math. Soc.* **66** (2) (1977), 309–314.
- [2] H.-K. DU, C.-Y. DENG, M. MBEKHTA, V. MÜLLER, On spectral properties of linear combinations of idempotents, *Studia Math.* **180** (3) (2007), 211–217.
- [3] R. HARTE, A spectral mapping theorem for holomorphic functions. *Math. Z.* **154** (1) (1977), 67–69.
- [4] R. HARTE, “Invertibility and Singularity for Bounded Linear Operators”, Monographs and Textbooks in Pure and Applied Mathematics, 109, Marcel Dekker Inc., New York, 1988.
- [5] J. J. KOLIHA, V. RAKOČEVIĆ, Stability theorems for linear combinations of idempotents, *Integral Equations Operator Theory* **58** (4) (2007), 597–601.
- [6] B. N. SADOVSKIĬ, Limit-compact and condensing operators, *Uspehi Mat. Nauk* **27** (1(163)) (1972), 81–146.