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The Single-Valued Extension Property and Subharmonicity

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Abstract: In this note, using subharmonicity techniques, we show stability-product of the single-valued extension property for the class of operators having spectrum without interior points. Consequently, some basic local spectral properties for the multiplication operator and the tensor product of operators are established.

Key words: local spectrum, subharmonicity, svep, tensor product.

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References

[1] Albrecht, E., Eschmeier, J., Analytic functional models and local spectral theory, *Proc. London Math. Soc. (3)* **75** (1997), 323 – 348.

[2] Aupetit, B., "A Primer on Spectral Theory", Springer-Verlag, New York, 1991.

[3] Aupetit, B., Drissi, D., Local spectrum and subharmonicity, *Proc. Edinburgh Math. Soc. (2)* **39** (1996), 571 – 579.

[4] Berg, I., An extension of the Weyl-von Neumann theorem to normal operators, *Trans. Amer. Math. Soc.* **160** (1971), 365 – 371.

[5] Brelot, M., "Éléments de la Thèorie du Potential", Centre de Documentation Universitaire, Paris, 1965.

[6] Brown, A., Pearcy, C., Spectra of tensor products of operators, *Proc. Amer. Math. Soc.* **17** (1966), 162 – 166.

[7] Colojoară, I., Foiaş, C., "The Theory of Generalized Spectral Operators", Gordon and Breach, Science Publishers, New York, 1968.

[8] Dixmier, J., "Les Algèbres d'Opérateurs dans l'Espace Hilbertien,", Gauthier-Villars, Paris, 1957.

[9] Drissi, D., Local spectrum and Kaplansky's theorem on algebraic operators, *Colloq. Math.* **75** (1998), 159 – 165.

[10] Finch, J.K., The single valued extension property on a Banach space, *Pacific J. Math.* **58** (1975), 61 – 69.

[11] Foiaş, C., Vasilescu, F.-H., On spectral theory of commutator, *J. Math. Anal. Appl.* **31** (1970), 473 – 486.

[12] Hayman, W.K., Kennedy, P.B., "Subharmonic Functions", Academic Press, London, 1976.

[13] Hille, E., On roots and logarithms of elements of a complex Banach algebra, *Math. Ann.* **136** (1958), 46 – 57.

[14] Laursen, K.B., Neumann, M.M., "An Introduction to Local Spectral Theory", The Clarendon Press, Oxford University Press, New York, 2000.

[15] Laursen, K.B., Miller, V.G., Neumann, M.M., Local spectral properies of commutators, *Proc. Edinburgh Math. Soc. (2)* **38** (1995), 313 – 329.

[16] Miller, T.L., Neumann, M.M., The single-valued extension property for sums and products of commuting operators, *Czechoslovak Math. J.* **52** (2002), 635 – 642.

[17] Miller, T.L., Miller, V.G., An operator satisfying Dunford condition (C) but without Bishop's property (β), *Glasg. Math. J.* **40** (1998), 427 – 430.

[18] Mbekhta, M., Sur la theorie spectrale locale et limite des nilpotents, *Proc. Amer. Math. Soc.* **110** (1990), 621 – 631.

[19] Prăjitură, G.T., The classes of local spectral theory, *J. Math. Anal. Appl.* **305** (2005), 175 – 182.

[20] Schechter, M., On the spectra of operators on tensor products, *J. Funct. Anal.* **4** (1969), 95 – 99.

[21] Sun, S.L., The sum and product of decomposable operators (chinese), *Northeast. Math. J.* **5** (1989), 105 – 117.

[22] "Elementary Operators and Applications", edited by M. Mathieu (Proceedings of the International Workshop, Blaubeuren, June 9 – 12, 1991), World Scientific, River Edge, NJ, 1992.