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On algebras of Banach algebra-valued bounded continuous functions. (English)

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Let X be a completely regular Hausdorff space and let A be a complex commutative Banach algebra with unit e . Let $C_b(X, A)$ denote the space of bounded A -valued continuous functions on X , equipped with the uniform norm. Assume that A is also completely symmetric and has continuous involution $*$. For $f \in C_b(X, A)$, the authors show that the statement that the invertibility of the Gelfand transform \tilde{f} implies that of f is equivalent to the statement that $\|\tilde{f}\| < 1$ implies that $e - f$ is invertible.

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MSC:

46E40 Spaces of vector- and operator-valued functions
46J10 Banach algebras of continuous functions, function algebras

Cited in 1 Document

Keywords:

Banach algebras; vector-valued bounded continuous functions; maximal ideal space

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References:

- [1] J. Arhippainen, On the ideal structure of algebras of LMC- algebras valued functions , Stud. Math. 101 (1992), 311-318. · Zbl 0812.46045
- [2] R.C. Buck, Continuous functions on a locally compact space , Michigan Math. J. 5 (1958), 95-104. · Zbl 0087.31502 · doi:10.1307/mmj/1028998054
- [3] S. Dierolf, K.H. Schröder and J. Wengenroth, Characters on certain function algebras , Funct. Approx. Comm. Math. 26 (1998), 53-58. · Zbl 0932.46041
- [4] W.E. Dietrich, Jr., The maximal ideal space of the topological algebra $\backslash(C(X,E)\backslash$, Math. Ann. 183 (1969), 201-212. · Zbl 0169.17703 · doi:10.1007/BF01351380
- [5] Z. Ercan and S. Onal, A remark on the homomorphism on $\backslash(C(X)\backslash$, Proc. Amer. Math. Soc. 133 (12) (2005), 3609-3611. · Zbl 1087.46038 · doi:10.1090/S0002-9939-05-07930-X
- [6] W. Govaerts, Homomorphisms of weighted algebras of continuous functions , Ann. Mat. Pura Appl. 116 (1978), 151-158. · Zbl 0379.46014 · doi:10.1007/BF02413872
- [7] A. Hausner, Ideals in a certain Banach algebra , Proc. Amer. Math. Soc. 8 (1957), 246-259. · Zbl 0079.13101 · doi:10.2307/2033720
- [8] W.J. Hery, Maximal ideal in algebras of topological algebra valued functions , Pac. J. Math. 65 (1976), 365-373. · Zbl 0315.46048 · doi:10.2140/pjm.1976.65.365
- [9] L.A Kahn, Linear topological spaces of continuous vector-valued functions , Academic Publ., Ltd., 2013-DOI: 10.12732/acad-publ.201301. · Zbl 0885.19003
- [10] M.A. Naimark, Normed algebras , 1972, Wolters-Noordhoff Publishing, Groningen, The Netherlands, 1972.
- [11] C.E. Rickart, General theory of Banach algebras , R.E. Krieger Publishing Company, Huntington, NY, 1974 (original edition, D. Van Nostrand Reinhold, 1960). · Zbl 0095.09702

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