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Description of closed maximal ideals in topological algebras of continuous vector-valued functions. (English) [Zbl 1318.46031](#)

Mediterr. J. Math. 11, No. 4, 1185-1193 (2014).

Summary: Let X be a completely regular Hausdorff space, A be a unital locally convex algebra with jointly continuous multiplication and $C(X, A)$ be the algebra of all continuous A -valued functions on X equipped with the topology of $\mathcal{K}(X)$ -convergence. Moreover, let $\mathfrak{M}_\ell(A)$ and $\mathfrak{M}(A)$ denote the set of all closed maximal left and two-sided ideals in A , respectively. In this note, we describe all closed maximal left and two-sided ideals in $C(X, A)$ and show that there exist bijections from $\mathfrak{M}_\ell(C(X, A))$ onto $X \times \mathfrak{M}_\ell(A)$ and $\mathfrak{M}(C(X, A))$ onto $X \times \mathfrak{M}(A)$. We also present new characterizations of closed maximal ideals in $C(X, A)$ when A is a unital commutative locally convex Gelfand-Mazur algebra with jointly continuous multiplication.

MSC:

46H10 Ideals and subalgebras

46J10 Banach algebras of continuous functions, function algebras

46J20 Ideals, maximal ideals, boundaries

Cited in **2** Documents

Keywords:

algebras of continuous vector-valued functions; topological algebras; locally convex algebras; locally m -convex algebras; locally A -convex algebras; Gelfand-Mazur algebras; description of maximal ideals

Full Text: [DOI](#) [arXiv](#)

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