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Tensor products of locally m-convex H^*-algebras. Structure theory

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ABSTRACT

In 1964, L. Grove [2] considered tensor products of H^*-algebras of W. Ambrose [1]. In this work we consider tensor products of locally m-convex H^*-algebras [3]. In particular, we prove that the tensor product of two Hausdorff locally m-convex H^*-algebras, in the projective tensor product topology, is an algebra of the same type. The existence of a canonical basis in a tensor product algebra, as before, is crucial for its structure. So, we examine conditions under which, there is such a basis. Based on this, we succeed among other things, a decomposition of the algebra in question, through minimal closed 2-sided ideals, getting thus the analogous here second Wedderburn structure theorem.

References

[**1**] W. Ambrose, *Structure theorems for a special class of Banach algebras*,Trans. Amer. Math. Soc. 57 (1945) 364–386.

[**2**] L.C. Grove, *Tensor products of H^*-algebras*, Thesis, University of Minnesota, 1964.

[**3**] M. Haralampidou, *On locally convex H^*-algebras*, Math. Japonica 38 (1993) 451–460.

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