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On the algebraic classification of bounded circular domains. (English)

Summary: The category of the partial Jordan structures associated to bounded balanced domains by Kaup’s canonical construction is characterized in terms of topological algebra. It is shown that this category coincides with the category of weakly commutative partial $JB^*$-triples. The converse question is also studied: which domains lead by Kaup’s construction to a given weakly commutative partial $JB^*$-triple?

Keywords: category of the partial Jordan structures associated to bounded balanced domains; Kaup’s canonical construction; topological algebra; category of weakly commutative partial $JB^*$-triples

Classification:

* 46H70 Nonassociative topological algebras
46L70 Nonassociative selfadjoint operator algebras
17C65 Jordan structures on Banach spaces and algebras