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Continuous Reinhardt domains from a Jordan viewpoint. (English)

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Summary: As a natural extension of bounded complete Reinhardt domains in \mathbb{C}^N to spaces of continuous functions, continuous Reinhardt domains (CRD) are bounded open connected solid sets in commutative C^* -algebras with respect to the natural ordering. We give a complete parametric description for the structure of holomorphic isomorphisms between CRDs and characterize the partial Jordan triple structures which can be associated with some CRDs. On the basis of these results, we test two conjectures concerning the Jordan structure of bounded circular domains. It turns out that both the problems of bidualization and unique extension of inner derivations have positive solution in the setting of CRDs.

Keywords : Jordan triple; holomorphic automorphism; commutative; C^* -algebra; continuous Reinhardt domain; bidual; derivation

Classification :

- *32M12 Almost homogeneous manifolds (spaces)
- 46G20 Infinite dimensional holomorphy
- 32M15 Symmetric spaces (analytic spaces)