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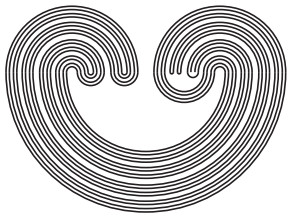

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by

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LOCALIZED STRICT TOPOLOGIES ON MULTIPLIER ALGEBRAS OF PRO-C^*-ALGEBRAS

ALEXANDRU CHIRVASITU

Abstract. The bounded localization β_b of a locally convex topology β is defined as the finest locally convex topology agreeing with β on all bounded sets. We show that the strict topology on the multiplier algebra of a bornological pro-C^*-algebra equals its own localization, generalizing the analogous result due to Taylor for multiplier algebras of plain C^*-algebras.

We also (a) characterize the barreled commutative unital pro-C^*-algebras as those of continuous functions on functionally Hausdorff spaces whose relatively pseudocompact subsets are relatively compact, equipped with the topology of uniform convergence on compact subsets, and (b) describe a contravariant equivalence between the category of commutative unital pro-C^*-algebras and a category of Tychonoff (rather than functionally Hausdorff) topological spaces.

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Key words and phrases. pro-C^*-algebra; σ-C^*-algebra; locally convex; seminorm; polar; absolutely convex; barrel; bornological; bounded set; localization; strict topology; multiplier algebra; Tychonoff space; completely regular; completely Hausdorff; functionally Hausdorff; compactly generated; κ-space; adjunction; limit; colimit; compactification; ultrafilter.

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