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On abelian topobornological groups: A convenient category for duality theory

A *group bornology* on a group G is a bornology that makes the group operations bounded. An abelian *topobornological group* consists of an abelian group G , a group topology on G , and a group bornology on G . The category of abelian topobornological groups and continuous bounded homomorphisms has a well-behaved internal hom-functor, which makes it suitable for studying duality theories of topological groups, and lends itself to a unified duality theory that includes the Pontryagin duality and the Comfort-Ross duality.