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Saturation and elementary equivalence of commutative C*-algebras

I will describe recent results about the model theory of commutative unital C*-algebras in the framework of continuous logic. It is well-known that the commutative unital C*-algebras are exactly the algebras of continuous $\mathbb{C}$-valued functions on compact Hausdorff spaces, so model-theoretic properties of the C*-algebra $C(X)$ are related to the topology of the space X. In this talk I will give examples of the topological properties implied by $C(X)$ being countably saturated, and also describe all of the complete theories of the algebras $C(X)$ where X is 0-dimensional. This is joint work with Alessandro Vignati.