The Banach-Stone type theorems for C*-algebras revisited

Abstract :

Roughly speaking, the Banach–Stone type theorems establish a link between the algebraic and the topological properties of certain structures. Specifically, the classical Banach-Stone theorem shows that the topological structure of a compact Hausdorff space Ω is determined by the geometry of $C(\Omega)$, the Banach space of continuous scalar-valued functions on Ω, but it also gives an explicit description of surjective linear isometries between two Banach spaces of continuous functions $C(\Omega_1)$ and $C(\Omega_2)$, that is, between two commutative unital C*-algebras. This theorem has been generalized in various ways. In this talk, following a long line of work on analogues of this classical theorem in the framework of C*-algebras, we will arrive at a recent result of this type, without assuming that the isometries be linear or that the C*-algebras be unital. This is a result from a joint work with C. B´en´eteau, F. Botelho, M. Cueto Avellaneda, J. E. Guerra, S. Kazemi and S. Oi.