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Some variants of Banach Stone Theorem

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Abstract: For a compact Hausdorff space X, $C(X)$ denotes the space of all complex-valued continuous functions on X with the sup norm. The classical Banach Stone Theorem states that every surjective complex-linear isometry $T : C(X) \to C(Y)$ is a composition operator with a unimodular weight, in other words, there exists a homeomorphism $\varphi : Y \to X$ and a complex constant c with $|c| = 1$ such that $Tf(y) = cf(\varphi(y))$ for each $f \in C(X)$ and $y \in Y$.

We discuss several analogues of this celebrated theorem for surjective isometries between the function spaces of (i) scalar/vector-valued continuous function spaces (ii) vector-valued C^1-function spaces in connection with topology of underlying spaces. Joint works with H. Koshimizu and T. Miura will be presented.