Jesus Araujo Gomez (jesus.araujo@unican.es) Facultad de Ciencias, Universidad de Cantabria, E-39005 Santander, Cantabria, Spain, ***Stability and superstability of operators between spaces of continuous functions.***

ABSTRACT. Let $\epsilon > 0$, and X, Y compact Hausdorff spaces. A continuous linear operator $T : C(X) \longrightarrow C(Y)$ is said to be ϵ-disjointness preserving if, given $f, g \in C(X)$ with $\|f\|_\infty = \|g\|_\infty = 1$, $fg \equiv 0$ yields $\|(Tf)(Tg)\|_\infty \leq \epsilon$.

Let C_0 the set of all weighted composition maps from $C(X)$ to $C(Y)$, and let C_ϵ the set of all norm one ϵ-disjointness operators from $C(X)$ to $C(Y)$. For each ϵ, we consider

$$K(\epsilon) := \sup\{\text{dist}\,(T, C_0) : T \in C_\epsilon\}.$$

We study the following problems: How big can $K(\epsilon)$ be? And how small?