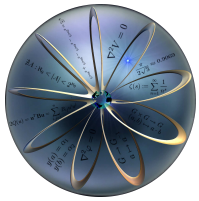

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compact Hausdorff space is extremally disconnected if its function algebra is a bounded complete lattice

Canonical name	CompactHausdorffSpaceIsExtremallyDisconnectedIfItsFunctionAlgebraIsABo
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Let X be a compact Hausdorff space and $C(X)$ the algebra of continuous functions $X \longrightarrow \mathbb{C}$. Recall that $C(X)$ is a vector lattice with the usual `http://planetmath.org/PartialOrder`order: $f \leq g \Longleftrightarrow g - f$ takes positive (or zero) values.

Theorem - If every subset of $C(X)$ that is bounded from above has a least upper bound (i.e. $C(X)$ is a bounded complete lattice), then X is extremally disconnected.