1035-47-1548   **Martha C. Gregg*** (`s-mgregg1@math.unl.edu`), Department of Mathematics, 203 Avery Hall, Lincoln, NE 68588-0130. *On C*-extreme Maps and Homomorphisms of $C(X)$.* Preliminary report.

The generalized state space of a commutative C^*-algebra, denoted $S_{\mathcal{H}}(C(X))$, is the set of positive unital maps from $C(X)$ to the algebra $\mathcal{B}(\mathcal{H})$ of bounded linear operators on a Hilbert space $\mathcal{H}$. C^*-convexity is one of several non-commutative analogs of convexity which have been discussed in this context. In this paper it is shown that a C^*-extreme point of $S_{\mathcal{H}}(C(X))$ satisfies a certain spectral condition on the operators in the range of the associated positive operator valued measure. If $\mathcal{H}$ is finite dimensional, D. Farenick and P. Morenz have shown that every C^*-extreme point of $S_{\mathcal{H}}(C(X))$ is multiplicative. However, their method is fundamentally different from the one used here, which enables us to show that C^*-extreme maps into $\mathcal{K}^+$, the algebra generated by the compact and scalar operators, are multiplicative. It is then possible determine the structure of these maps. (Received September 20, 2007)

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