

1049-46-197

Aaron Luttmann and **Scott Lambert*** (slambert@colby.edu), Mayflower Hill 5830, Waterville, ME 04901. *Norm Conditions for Uniform Algebra Isomorphisms.*

In recent years much work has been done analyzing maps, not assumed to be linear, between uniform algebras that preserve the norm, spectrum, or subsets of the spectra of algebra elements, and it is shown that such maps must be linear and/or multiplicative. Letting A and B be uniform algebras on compact Hausdorff spaces X and Y , respectively, it is shown here that if $T: A \rightarrow B$ is a surjective map, not assumed to be linear, satisfying

$$\|T(f)T(g) + 1\| = \|fg + 1\| \quad \forall f, g \in A,$$

then T is an \mathbb{R} -linear isometry. Moreover, if T is unital, i.e. $T(1) = 1$, then $T(i) = i$ implies that T is an isometric algebra isomorphism whereas $T(i) = -i$ implies that T is a conjugate-isomorphism. Some details will be given on how this is proved and some directions given for further investigation. (Received March 03, 2009)