ON THE SOLUBILITY OF TRANSCENDENTAL EQUATIONS IN COMMUTATIVE C^*-ALGEBRAS

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ABSTRACT. It is known that $C(X)$ is algebraically closed if X is a locally connected, hereditarily unicoherent compact Hausdorff space. For such spaces, we prove that if $F : C(X) \to C(X)$ is an entire function in the sense of Lorch, i.e., is given by an everywhere convergent power series with coefficients in $C(X)$, and satisfies certain restrictions, then it has a root in $C(X)$. Our results generalizes the monic algebraic case.

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