

## ON AUTOMATIC CONTINUITY OF DERIVATIONS FOR BANACH ALGEBRAS WITH INVOLUTION

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### ABSTRACT

We treat the problem of the automatic continuity of the Derivations in Banach algebras provided with an involution  $\sigma$ . To do this, we introduce and study on a unitary algebra provided with an involution a notion which we call  $\sigma$ -semi-simplicity. It is based on the study of certain bilateral ideals called  $\sigma$ -ideals.

**Keywords:**  $\sigma$ -Algebra,  $\sigma$ -Simple algebra,  $\sigma$ -Semi-Simple Algebra, Automatic Continuity, Separating ideal.