

## Centroids and derivations of associative algebras

### ABSTRACT

In this paper we study centroids and derivations of associative algebras. Using a classification result of associative algebras, we describe the centroids and derivations of low-dimensional associative algebras. We review some properties of the centroids in the light of associative algebras and use these properties to categorize the algebras into having small and not small centroids. We also give a list of low-dimensional characteristically nilpotent associative algebras.

**Keyword:** Associative algebras; Centroids; Derivations