## ABSTRACT

It is well known that every derivation on a ring R is a Jordan derivation but the converse is not true in general. The converse which is known as Jordan derivation problem was studied by various researchers in the one word of Jordan derivations, left Jordan derivations and generalized Jordan derivations and resolved this problem in their respective perspectives. We review this problem in Chapter 1, in the light of work done by Wu-Jung and Lu [35].

In this dissertation, we introduce the notion of generalized left Jordan derivations on a ring R. This notion is inspired by the concept of generalized Jordan derivations and the left Jordan derivations. Moreover, it is canonically extended in the one word of Lie ideals of a ring R and Γ-rings. In this connection, we are able to establish the first order theory of generalized left Jordan derivations that may provide a fundamental tool for the researches. Some of the results of Breaser and Vukman [12], Ashraf and Nadeem-ur-Rehman [2] in the context of left Jordan derivations are discussed in chapter 2. A few results of this chapter have become a special case of our results presented in chapter 3, in generalized left Jordan derivations. Moreover, some results of Ceven [18] have become the special case of our results presented in chapter 4, for generalized left Jordan derivations on Γ-rings .