

A Note on Fuzzy Baer Subrings

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ABSTRACT

A ring R is called Baer ring if the left (right) annihilator of each non empty subset of R is the left (right) ideal generated by an idempotent in R . In this article, we introduce fuzzy Baer subring using the notions of fuzzy left (right) annihilator and fuzzy subset generated by an element. Furthermore, it introduces and examines the center of fuzzy Baer subring and abelian fuzzy Baer subring. The paper presents adapted proofs that extend the fundamental properties of Baer rings from classical ring theory into their fuzzified versions. These adaptations include left (right) fuzzy annihilator is the left (right) fuzzy ideal of ring, direct summand of fuzzy Baer subrings is the fuzzy Baer subring, and center of fuzzy Baer subring is the fuzzy Baer subring. The primary aim of this study is to integrate fuzzy set theory and ring theory within the domain of fuzzy subrings, elucidating novel methodological advancements within this domain of fuzzy subrings.

Keywords: Fuzzy subring; Fuzzy annihilator; Fuzzy Baer Subring

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