GAKKOTOSHO
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BAER-STONE FUZZY SEMIGROUPS

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Abstract. In this paper, we introduce and investigate a new class of fuzzy semigroups called Baer-Stone fuzzy semigroups. These structures generalize classical Baer-Stone semigroups to the fuzzy context. We define Baer-Stone fuzzy ideals and fuzzy quasi-ideals, and study their properties. We also obtain some characterizations of fuzzy regular, fuzzy intra-regular and Baer-Stone fuzzy semigroups. The relationships among fuzzy idempotents, fuzzy ideals and Baer-Stone fuzzy ideals are also discussed with the help of suitable examples.