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Soft completely regular sub-semigroups. (Chinese. English summary) [Zbl 1313.20075]

Summary: D. Molodtsov [Comput. Math. Appl. 37, No. 4-5, 19-31 (1999; Zbl 0936.03049)] introduced the theory of soft sets, which can be used as an effectively mathematical tool for dealing with vagueness. In this paper, based on soft sets, we firstly assign the parameter sets an algebraic structure of completely regular semigroups and introduce the concept of soft completely regular sub-semigroups. Then, their equivalent characterizations are obtained. Next, by using the intersection and the and operation of soft sets, we show that the intersection and the and operation of soft completely regular sub-semigroups are also soft completely regular sub-semigroups. Finally, by using the dual soft sets, we study the relationship between the soft completely regular sub-semigroup and its dual soft set and get some properties of them.

MSC:
20N25 Fuzzy groups
20M17 Regular semigroups
08A72 Fuzzy algebraic structures

Keywords:
soft sets; soft completely regular subsemigroups

Full Text: DOI