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Generalization of soft topological groups. (English) Zbl 1441.22002

Summary: There exists two different definitions for soft topological groups, the first due to T. Hida [Ann. Fuzzy Math. Inform. 8, No. 6, 1001–1025 (2014; Zbl 1311.22002)] and the other due to T. Shah and S. Shaheen [ibid. 7, No. 5, 725–743 (2014; Zbl 1304.54061)]. In this paper, we give a generalization for both of them, and also, we study the topological properties for the construction of finer soft topology made by Nazmul and use the same technique to construct a soft topological group via Hida concept starting from a parametrized family of topological groups. Then, we introduce the concept of soft rough and rough soft topological group to generalize the concept of rough and soft topological group.

MSC:
22A05 Structure of general topological groups
54H11 Topological groups (topological aspects)
54A40 Fuzzy topology
20N25 Fuzzy groups

Keywords:
topological group; soft topological group; generalized soft topological groups; rough topological group; soft rough topological group; rough soft topological group

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References:


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