FUZZY COSETS OF FUZZY SUBSETS, FUZZY SUBGROUPS AND THEIR GENERALIZATION

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The theory of fuzzy sets was introduced by Zadeh. Subsequently Rosenfeld introduced the concept of fuzzy subgroup of a group. Fuzzy cosets and fuzzy normal subgroups of a group G have been studied by H.V. Kumbhojkar and Wang Liu. Here in this paper we define the fuzzy coset of a fuzzy subset (subgroup) by which we prove that any two fuzzy cosets are either identical or disjoint. Further we define a new type of fuzzy partition which actually partitions any fuzzy subset. We generalize the fuzzy cosets to the notion of fuzzy double cosets and prove that the collection of all fuzzy double cosets of two fuzzy subsets A and B of set X is a fuzzy partition of A ∩ B if only if f is normal.