

FUZZY CONDITIONAL TOPOLOGICAL ENTROPY

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ABSTRACT. In 2005, Tok [27] defined fuzzy topological entropy for fuzzy compact topological spaces that was further studied by Afsan and Basu [2] for arbitrary topological spaces. In the present paper, we have initiated a new notion of topological entropy in fuzzy settings, namely fuzzy conditional entropy based on the notion of fuzzy compactness [9] that actually, has fuzzified the notion of the topological conditional entropy of Misiurewicz [23]. We have studied many basic properties of this notion and we have achieved a formula of the fuzzy conditional topological entropy for fuzzy C -compact topological spaces in terms of its fuzzy closed covers. Further, We have established a relationship between the fuzzy conditional topological entropy and the fuzzy topological entropies due to Tok [27] and Afsan and Basu [2].

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