## Two different notions of fuzzy relative frequencies and their limit behaviour

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Two different ways for generalizing the classical concept of relative frequencies to samples of fuzzy numbers or fuzzy vectors $x^*_1,..., x^*_n$ are observed. One is based on hitting and missing frequencies of the corresponding $\alpha$-cuts of the sample and the other one is based on Zadeh's Extension Principle. Although the two approaches originate from completely different ideas it can be shown that there is a simple and strong interrelation between the corresponding notions of fuzzy relative frequencies. Furthermore analogous to A. Dempster's interval-valued probabilities induced by random intervals fuzzy-valued probabilities induced by fuzzy random vectors are introduced and it is shown that fuzzy relative frequencies in the above sense can be interpreted as consistent estimator for the corresponding fuzzy-valued probability with respect to various metrics.