

ENRIQUE MIRANDA MENENDEZ <mirandaenrique@uniovi.es>

Title: Random sets and belief functions

In this talk, I will summarize the connections between random sets and belief functions. I will recall the definitions of the upper and lower probabilities of a random set, show that they are particular cases of belief and plausibility functions, and consider a number of particular cases (possibility and necessity measures, probability measures, and p-boxes).

In addition, I will discuss the two main interpretations of random sets (ontic and epistemic), their relevance when dealing with conditioning and other imprecise probability models that can be derived for epistemic random sets.

For most of the talk I will consider random sets taking values on a finite space. At the end I will discuss to which extent the main results hold for general random sets taking values on infinite spaces.