Assessing similarity of realisations of random sets via their morphological skeletons

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The talk concerns a method of assessing similarity of two realisations of random sets. The method is based on construction of their morphological skeletons with corresponding maximal discs and evaluation of a special function on the discs, which characterises the shape of each realisation. Since the realisations are considered to be binary images, the skeletons together with the corresponding discs can be viewed as marked point processes with specific properties. Different functions for comparing such marked point processes are shown. The described procedure is illustrated on a simulation study with the aim to distinguish between realisations coming from different models.