

# "Quermass-interaction process - simulations, extensions and statistical inferences"

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## **Abstract:**

"Quermass-interaction process is model of a planar random set formed by a union of interacting discs with centres randomly scattered in a bounded window and with random radii. The mutual interactions among the discs are driven by geometrical characteristics of the whole union, e.g. by its area or the length of its boundary. The probability distribution of this set is given by a density with respect to so called Boolean model, i.e. with respect to a model for the union of discs without any interactions. This contribution concerns properties, simulations by MCMC algorithm and several statistical inferences of the model."