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## Proximity of Poisson $k$ -flats

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The  $k$ -flats of a Poisson  $k$ -flat process in  $\mathbb{R}^d$  with  $k < d/2$  do not intersect almost surely and it is possible to define a distance for each pair of  $k$ -flats hitting a compact convex set. In this talk, the sum of these distances and the smallest or  $m$ -th smallest distance are investigated and we are interested in the asymptotic behavior of these random variables when the intensity of the underlying Poisson  $k$ -flat process is increased. Applying recent results for Poisson functionals, the problems can be reduced to the computation of some geometric integrals.

*This is joint work with C. Thäle (University of Osnabrück).*

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