Universität Karlsruhe (TH)
Institut für Algebra und Geometrie

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Stochastic and Integral Geometry II

Exercise Sheet 10

Please hand in your solutions at the end of the lecture on **Tuesday, July 3rd**.

Exercise 1

Let X be a stationary Poisson-Voronoi mosaic. Consider the process $\tilde{X}$ of midpoints of the circumspheres of the cells. Is $\tilde{X}$ a Poisson process?

Exercise 2

Let X be a stationary and isotropic mosaic in $\mathbb{R}^d$, $X^{(k)}$ be the process of the k-faces and L be a q-dimensional linear subspace of $\mathbb{R}^d$. Show that $X \cap L$ is a stationary and isotropic mosaic and

$$\overline{V}_j((X \cap L)^{(r)}) = \alpha_{djq} \overline{V}_{d+j-q}(X^{(d+r-q)}), \quad \text{for } 0 \leq j \leq r \leq q \leq d-1.$$