

Publications since 1999

- Beneš V., Rataj J., Krejčíř P., Ohser J. (1999) Projection measures and estimation variances of intensities. *Statistics*, 32/4, 369-93.
- Beneš V., Hlawiczková M. (1999) Stereological estimation of integral mixed curvature. *Proc. S⁴G*, Beneš et al Eds., JČMF, Praha, 71-76.
- Čejka V., Beneš V. (1999) Computer aided fractography: methods for evaluation of image anisotropy. *Proc. S⁴G*, Beneš et al Eds., JČMF, Praha, 89-94.
- Krejčíř P., Beneš V. (1999) A maximum likelihood estimator of an inhomogeneous Poisson point process intensity using beta splines. *Proc. S⁴G*, Beneš et al Eds., JČMF, Praha, 159-164.
- Beneš V., Gokhale A.M. (2000) Planar anisotropy revisited. *Kybernetika* 36/2, 149-164.
- Beneš V., Gokhale A.M., Hlawiczková M., Vander Voort G.F. (2000) Anisotropy testing using the Prokhorov distance. *Proc. 6th Int. Conf. STERMAT'2000*, Cracow, Mes-Print, 53-58.
- Hlawiczková M., Gokhale A.M., Beneš V. (2000) Properties of length density estimation based on vertical projections. *Proc. 6th Int. Conf. STERMAT'2000*, Cracow, Mes-Print, 173-178.
- Beneš V., Hlawiczková M., Voleník K. (2000) Stereological estimation of integral mixed curvature with application. *J. Microscopy*, Vol. 200, Part 1, 26-31.
- Beneš V., Hlawiczková M., Gokhale A.M., Vander Voort G.F. (2001) Anisotropy estimation properties for microstructural models. *Materials Characterization* 46, 2-3, 93-98.
- Hlubinka D., Beneš V. (2001) Prediction of the extremal shape factor of spheroidal particles. *Image Analysis & Stereology*, Vol. 20, 2, 101-104.
- Hlawiczková M., Gokhale A.M., Beneš V. (2001) Bias of a length density estimator based on vertical projections. *J. Microscopy*, 204, 3, 226-231.
- Bodlák K., Balasundaram A., Gokhale A.M., Beneš V. (2002) Characterization of bivariate size-orientation distribution of circular plate particles. *Image Analysis & Stereology*, Vol. 21, 175-181.
- Moeller J., Beneš V., Bodlák K., Waagepetersen R. (2002) Bayesian analysis of log Gaussian Cox processes for disease mapping. *Res. Report 3/2002*, MaPhySto, Aarhus.
- Nachtigal P., Semecký V., Gojová A., Kopecký M., Beneš V., Juzková R. (2002) The application of stereological methods for the quantitative analysis of the atherosclerotic lesions in rabbits. *Image Analysis & Stereology*, Vol. 21, 165-174.
- Beneš V., Bodlák K., Hlubinka D. (2003) Stereology of extremes; bivariate models and computation. *Methodology and Computing in Applied Probability*, 5, 289-308.
- Beneš V., Bodlák K., Moeller J., Waagepetersen R. (2003) Application of log-Gaussian Cox processes in disease mapping. Ed. by Mateu J. et al., *Proc. The ISI Int. Conf. on Environ. Stat. and Health*. Santiago de Compostella, 95-105.
- Bodlák K., Balasundaram A., Gokhale A.M., Beneš V. (2003) Three-dimensional bivariate size-orientation distribution of microcracks. *Acta Materialia*, 51, 11, 3131-3145.
- Juzková R., Ctibor P., Beneš V. (2004) Analysis of porous structure in plasma-sprayed coating. *Image Analysis & Stereology*, Vol. 23, 45-52.
- Jiruše M., Machek J., Beneš V., Zeman P. (2004) A Bayesian estimate of the risk of tick-borne diseases. *Applications of Mathematics* 49, 5.
- Pawlas Z., Beneš V. (2004) On the central limit theorem for the stationary Poisson process of compact sets. *Math. Nachrichten* 267, 77-87.
- Beneš V., Rataj J. (2004) *Stochastic Geometry: Selected Topics*. Kluwer Academic Publishers. Boston.
- Beneš V., Prokešová M. (2004) Časoprostorové bodové procesy. In: *Proc. ROBUST 2004*, ed. by Antoch J., Dohnal G., JČMF Praha, 17-24.

- Beneš V., Prokešová M. (2005) Nonlinear filtration in doubly stochastic point processes. In Proc. 4th Int. Conf. Aplimat 2005, ed. by Kováčová M., SĵF STU Bratislava, 415-420.
- Jůzková R., Ctibor P., Beneš V. (2005) Interlamellar flat pores analysis in plasma-sprayed coating. Proc. 9ECSIA, ed. by Chraponski J., Cwajna J., Wojnar L., Mes-Print, Krakow, vol. I, 65-72.
- Beneš V., Saxl I. (2005) Stereological estimation of the rose of directions. In: Baeza-Yates et al. eds. Recent Advances in Applied Probability. New York, Springer-Verlag, 65-96.
- Beneš V., Bodlák K., Møller J., Waagepetersen R. (2005) A case study on point process modelling in disease mapping. *Image Anal. & Stereol.* 24, 3, 1-10.
- Ctibor P., Lechnerová, R., Beneš, V. (2006) Quantification of pores of plasma-sprayed coatings. *Materials Characterization*, 33, 246-253.
- Prokešová M., Beneš V. (2006) Nonlinear filtering in spatial-temporal doubly stochastic point processes driven by OU processes. *Kybernetika* 37, 5, 539-556.
- Beneš V., Lechnerová R., Klebanov L. (2006) Nelineární filtrování Coxových bodových procesu. In: J. Antoch, G. Dohnal (Eds.): ROBUST 2006, JČMF, Praha, (2006), 17-23.
- Beneš V., Helisová K., Klebanov L. (2006) On intersection of OUCP and SNCP point processes. In: Hušková M. and Janžura M. (Eds.): Proc. Prague Stochastics 2006, Matfyzpress, Praha, 247-255.
- Beneš V., Helisová K. (2006) On a class of Cox point processes. In: R. Lechnerová, I. Saxl, V. Beneš (Eds.): Proceedings S4G. International Conference on Stereology, Spatial Statistics and Stochastic Geometry. JČMF, Praha, 57-62.
- Ctibor P., Chráška P., Hofmann P., Lechnerová R., Beneš V. (2007) 3D Visualization of Thermally Sprayed Microstructure. In: Thermal Spray 2007: Global Coating Solution, ASM International, Ohio, USA, 878-883.
- Beneš V., Frcalová B. (2008) Modelling and simulation of a neurophysiological experiment by spatio-temporal point processes. *Image Anal Stereol* 27, 47-52.
- Lechnerová R., Helisová K., Beneš V. (2008) Cox point processes driven by Ornstein-Uhlenbeck type processes. *Methodol Comput Appl Probab* 10, 3, 315-336.
- Klebanov L., Beneš V. (2008) Distances defined by zonoids and statistical tests. *Int. J. of Pure and Applied Mathematics* 45, 1, 33-43.
- Klebanov L.B., Lechnerová R., Slámová M., Sláma P., Beneš V. (2008) Statistical testing of microstructure differences, *Inzynieria Materialowa XXIX*, 181-185.
- Beneš V., Lechnerová R., Klebanov L., Slámová M., Sláma P. (2009) Statistical comparison of the geometry of second phase particles. *Materials Characterization*, 60, 10, 1076-1081.
- Beneš V., Klebanov L., Lechnerová R. (2009) Two-sample tests for germ-grain models. In: Proc. of the 10th European Congress of ISS. V. Capasso, G. Aletti, A. Micheletti (Eds.), The MIRIAM Project Series, ESCULAPIO Pub. Co., Bologna, Italy, 520-525.
- Frcalová B., Beneš V. (2009) Spatio-temporal modelling of a Cox point process sampled by a curve, filtering and inference. *Kybernetika* 45, 6, 912-930.
- Frcalová B., Beneš V., Klement D. (2010) Spatio-temporal point process filtering methods with an application. *Environmetrics* 21, 240-252.
- Pawlas Z., Klebanov L., Beneš V., Prokešová M., Popelář J., Lánský P. (2010) First-spike latency in presence of spontaneous activity. *Neural Computation* 22, 1675-1697.
- Král P., Dvořák J., Kvapilová M., Svoboda M., Beneš V., Ponížil P., Šedivý O., Sklenička V. (2011) Quantitative characterization of microstructures in copper processed by equal-channel angular pressing. *Materials Science Forum*, Vols. 667-669, 235-240.
- Beneš V., Klebanov L., Lechnerová R., Sláma P. (2011) Statistical Tests Based on the Geometry of Second Phase Particles, In: Recent Trends in Processing and Degradation of Aluminium Alloys, Zaki Ahmad (Ed.), ISBN: 978-953-307-734-5, InTech, Chapter 19, 459-476.

- Beneš V., Šedivý O. (2011) Random marked sets in R^d with integer dimension $< d$. In: Proc. 13th International Congress for Stereology, Guoquan Liu (Ed.), electronic document, Beijing, 4p.
- Zikmundová M., Staňková Helisová K., Beneš V. (2012) Spatio-temporal model for a random set given by a union of interacting discs. *Methodol Comput Appl Probab* 14, 3, 883-894.
- Šedivý O., Beneš V., Ponížil P., Král P., Sklenička V. (2013) Quantitative characterization of microstructures of pure copper processed by ECAP. *Image Anal Stereol* 32, 2, 65-76.
- Šedivý O., Staněk J., Kratochvílová B., Beneš V. (2013) Sliced inverse regression and independence in random marked sets with covariates. *Adv Appl Probab* 45, 3, 626-644.
- Zikmundová M., Staňková Helisová K., Beneš V. (2014) On the use of particle Markov chain Monte Carlo in parameter estimation of space-time interacting discs. *Methodol Comput Appl Probab* 16, 2, 451-463.
- Staněk J., Šedivý O., Beneš V. (2014) On random marked sets with a smaller integer dimension. *Methodol Comput Appl Probab* 16, 2, 397-410.
- Beneš V., Zikmundová M. (2014) Functionals of spatial point processes having a density with respect to the Poisson process. *Kybernetika*, 50, 6, 896-913.
- Beneš V., Staněk J., Kratochvílová B., Šedivý O. (2015) Random marked sets and dimension reduction. In: *Stochastic Geometry, Spatial Statistics and Random Fields: Models and Algorithms*. Ed. by V. Schmidt, Lecture Notes in Mathematics 2120, Springer, Chapter 6, 171-204.
- Beneš V., Prokešová M., Staňková Helisová K., Zikmundová M. (2015) Space time models in stochastic geometry. In: *Stochastic Geometry, Spatial Statistics and Random Fields: Models and Algorithms*. Ed. by V. Schmidt, Lecture Notes in Mathematics 2120, Springer, Chapter 7, 205-232.
- Kriesche B., Koubek A., Pawlas Z., Beneš V., Hess R., Schmidt V. (2015) A model-based approach to the computation of area probabilities for precipitation exceeding a certain threshold. *Proc. 21st Internat. Congress on Modelling and Simulation, Gold Coast, Australia*, 2103–2109.
- Večeřa J., Beneš V. (2016) Interaction processes for unions of facets, the asymptotic behaviour with increasing intensity. *Method. Comp. Appl. Probab.* 18, 4, 1217–1239.
- Neumann M., Staněk J., Pecho O., Holzer L., Beneš V., Schmidt V. (2016) Stochastic 3D modeling of complex three-phase microstructures in SOFC-electrodes with completely connected phases. *Comput. Mater. Sci.* 118, 353–364.
- Šedivý O., Brereton T., Westhoff D., Polívka L., Beneš V., Schmidt V., Jaeger A. (2016) 3D reconstruction of grains in polycrystalline materials using a tessellation model with curved grain boundaries. *Philo. Magaz., Part A: Mater. Sci.*, 96, 18, 1926–1949.
- Večeřa J., Beneš V. (2017) Approaches to asymptotics for U -statistics of Gibbs facet processes. *Statist. Probab. Lett.*, 122, 51–57.
- Beneš V., Večeřa J., Eltzner B., Wollnik C., Rehfeldt F., Králová V., Huckemann S. (2017) Estimation of parameters in a planar segment process with a biological application. *Image Anal. & Stereol.*, 36, 25–33.
- Kriesche B., Koubek A., Pawlas Z., Beneš V., Hess R., Schmidt V. (2017) On the computation of area probabilities based on a spatial stochastic model for precipitation cells and precipitation amounts. *Stoch. Envir. Res. Risk Assess.*, 31 (10), 2659–2674.
- Flimmel D., Beneš V. (2018) Gaussian approximation for functionals of Gibbs particle processes. *Kybernetika*, 54 (4), 765–777.
- Král P., Staněk J., Kunčická L., Seitzl F., Petrich L., Schmidt V., Beneš V., Sklenička V. (2019) Microstructure changes in HPT-processed copper occurring at room temperature. *Mater. Charact.*, 151, 602–611.
- Petrich L., Staněk J., Wang M., Westhoff D., Heller L., Šittner P., Krill III C.E., Beneš V., Schmidt V. (2019) Reconstruction of Grains in Polycrystalline Materials From Incomplete Data Using Laguerre Tessellations. *Microsc. Microanal.*, 25, 3, 743–752.

- Neumann M., Hirsch Ch., Staněk J., Beneš V., Schmidt V. (2019) Estimation of geodesic tortuosity and constrictivity in stationary random closed sets. *Scand. J. Statist.*, 46, 848–884.
- Beneš V., Večeřa J., Pultar M. (2019) Planar segment processes with reference mark distributions, modeling and estimation. *Method. Comp. Appl. Probab.* 21, 3, 683–698.
- Kopeček J., Staněk J., Habr S., Seitl F., Petrich L., Schmidt V., Beneš V. (2020) Analysis of the polycrystalline microstructure of AlMgSc alloy observed by 3D EBSD. *Image Anal. Stereol.* 39, 269–279.
- Heller L., Karafiátová I., Petrich L., Pawlas Z., Shayanfard P., Beneš V., Schmidt V., Šittner P. (2020) Numerical microstructure model of NiTi wire reconstructed from 3D-XRD data. *Model. Simul. Mater. Sci. Engin.* 28, 5, 055007.
- Staněk, J., Kopeček, J., Král, P., Karafiátová, I., Seitl, F., Beneš, V. (2020) Comparison of segmentation of 2D and 3D EBSD measurements in polycrystalline materials. *Kov. mater., Metal. Mater.* 58, 5, 301–319.
- Beneš V., Hofer-Temmel Ch., Last G., Večeřa J. (2020) Decorrelation of a class of Gibbs particle processes and asymptotic properties of U -statistics. *J. Appl. Probab.* 57, 3, 928–955.
- Seitl F., Petrich L., Staněk J., Krill III C.E., Beneš V., Schmidt V. (2021) Exploration of Gibbs-Laguerre tessellations for three-dimensional stochastic modeling. *Method. Comp. Appl. Probab.* 23, 669–693.
- Stoyan D., Beneš V., Seitl F. (2021) Dependent radius marks of Laguerre tessellations: a case study. *Austr. N.Z. J. Stat.* 63, 1, 19–32.
- Seitl F., Møller J., Beneš V. (2022) Fitting three-dimensional Laguerre tessellations by hierarchical marked point process models. *Spatial Statistics.* 51, 100658.
- Karafiátová I., Møller J., Pawlas Z., Staněk J., Seitl F., Beneš V. (2023) Fitting the grain orientation distribution of a polycrystalline material conditioned on a Laguerre tessellation. *Spatial Statistics.* 55, 100747.