

Publication List

Beniamin BOGOSEL

01/11/2025

JOURNAL PAPERS

1. B. Bogosel and B. Velichkov. *A multiphase shape optimization problem for eigenvalues: qualitative study and numerical results*. In: **SIAM J. Numer. Anal.** 54.1, 2016, pp. 210–241. doi: [10.1137/140976406](https://doi.org/10.1137/140976406)
2. B. Bogosel and E. Oudet. *Qualitative and numerical analysis of a spectral problem with perimeter constraint*. In: **SIAM J. Control Optim.** 54.1, 2016, pp. 317–340. doi: [10.1137/140999530](https://doi.org/10.1137/140999530)
3. B. Bogosel. *The Steklov spectrum on moving domains*. In: **Appl. Math. Optim.** 75.1, 2017, pp. 1–25. doi: [10.1007/s00245-015-9321-5](https://doi.org/10.1007/s00245-015-9321-5)
4. B. Bogosel. *The method of fundamental solutions applied to boundary eigenvalue problems*. In: **J. Comput. Appl. Math.** 306, 2016, pp. 265–285. doi: [10.1016/j.cam.2016.04.008](https://doi.org/10.1016/j.cam.2016.04.008)
5. B. Bogosel, D. Bucur and A. Giacomini. *Optimal shapes maximizing the Steklov eigenvalues*. In: **SIAM J. Math. Anal.** 49.2, 2017, pp. 1645–1680. doi: [10.1137/16M1075260](https://doi.org/10.1137/16M1075260)
6. B. Bogosel and E. Oudet. *Partitions of minimal length on manifolds*. In: **Exp. Math.** 26.4, 2017, pp. 496–508. doi: [10.1080/10586458.2016.1223570](https://doi.org/10.1080/10586458.2016.1223570)
7. B. Bogosel and V. Bonnaillie-Noël. *Minimal partitions for p -norms of eigenvalues*. In: **Interfaces Free Bound.** 20.1, 2018, pp. 129–163. doi: [10.4171/IFB/399](https://doi.org/10.4171/IFB/399)
8. B. Bogosel. *Efficient algorithm for optimizing spectral partitions*. In: **Appl. Math. Comput.** 333, 2018, pp. 61–75. doi: [10.1016/j.amc.2018.03.087](https://doi.org/10.1016/j.amc.2018.03.087)
9. B. Bogosel, A. Henrot and I. Lucardesi. *Minimization of the eigenvalues of the Dirichlet-Laplacian with a diameter constraint*. In: **SIAM J. Math. Anal.** 50.5, 2018, pp. 5337–5361. doi: [10.1137/17M1162147](https://doi.org/10.1137/17M1162147)

10. G. Allaire and B. Bogosel. *Optimizing supports for additive manufacturing*. In: **Struct. Multidiscip. Optim.** 58.6, 2018, pp. 2493–2515. doi: [10.1007/s00158-018-2125-x](https://doi.org/10.1007/s00158-018-2125-x)
11. B. Bogosel. *Regularity result for a shape optimization problem under perimeter constraint*. In: **Comm. Anal. Geom.** 27.7, 2019, pp. 1523–1547. doi: [10.4310/CAG.2019.v27.n7.a3](https://doi.org/10.4310/CAG.2019.v27.n7.a3)
12. B. Bogosel, D. Bucur and I. Fragalà. *Phase field approach to optimal packing problems and related Cheeger clusters*. In: **Appl. Math. Optim.** 81.1, 2020, pp. 63–87. doi: [10.1007/s00245-018-9476-y](https://doi.org/10.1007/s00245-018-9476-y)
13. B. Bogosel, V. Perrollaz, K. Raschel and A. Trotignon. *3D positive lattice walks and spherical triangles*. In: **J. Combin. Theory Ser. A** 172, 2020, pp. 105189, 47. doi: [10.1016/j.jcta.2019.105189](https://doi.org/10.1016/j.jcta.2019.105189)
14. G. Allaire, M. Bihr and B. Bogosel. *Support optimization in additive manufacturing for geometric and thermo-mechanical constraints*. In: **Struct. Multidiscip. Optim.** 61.6, 2020, pp. 2377–2399. doi: [10.1007/s00158-020-02551-1](https://doi.org/10.1007/s00158-020-02551-1)
15. A. Al Sayed, B. Bogosel, A. Henrot and F. Nacry. *Maximization of the Steklov eigenvalues with a diameter constraint*. In: **SIAM J. Math. Anal.** 53.1, 2021, pp. 710–729. doi: [10.1137/20M1335042](https://doi.org/10.1137/20M1335042)
16. B. Bogosel, T. Giletti and A. Tellini. *Propagation for KPP bulk-surface systems in a general cylindrical domain*. In: **Nonlinear Anal.** 213, 2021, Paper No. 112528, 42. doi: [10.1016/j.na.2021.112528](https://doi.org/10.1016/j.na.2021.112528)
17. G. Allaire, B. Bogosel and M. Godoy. *Shape optimization of an imperfect interface: steady-state heat diffusion*. In: **J. Optim. Theory Appl.** 191.1, 2021, pp. 169–201. doi: [10.1007/s10957-021-01928-6](https://doi.org/10.1007/s10957-021-01928-6)
18. B. Bogosel and E. Oudet. *Longest minimal length partitions*. In: **Interfaces Free Bound.** 24.1, 2022, pp. 95–135. doi: [10.4171/ifb/468](https://doi.org/10.4171/ifb/468)
19. P. R. S. Antunes and B. Bogosel. *Parametric shape optimization using the support function*. In: **Comput. Optim. Appl.** 82.1, 2022, pp. 107–138. doi: [10.1007/s10589-022-00360-4](https://doi.org/10.1007/s10589-022-00360-4)
20. M. Bihr, G. Allaire, X. Betbeder-Lauque, B. Bogosel, F. Bordeu and J. Querois. *Part and supports optimization in metal powder bed additive manufacturing using simplified process simulation*. In: **Comput. Methods Appl. Mech. Engrg.** 395, 2022, Paper No. 114975, 30. doi: [10.1016/j.cma.2022.114975](https://doi.org/10.1016/j.cma.2022.114975)

21. G. Allaire, B. Bogosel and M. Godoy. *Topology optimization of supports with imperfect bonding in additive manufacturing*. In: **Structural and Multidisciplinary Optimization** 65.10, 2022. doi: [10.1007/s00158-022-03284-z](https://doi.org/10.1007/s00158-022-03284-z)
22. B. Bogosel. *Numerical Shape Optimization Among Convex Sets*. In: **Applied Mathematics & Optimization** 87.1, 2022. doi: [10.1007/s00245-022-09920-w](https://doi.org/10.1007/s00245-022-09920-w)
23. G. Allaire, M. Bihr, B. Bogosel and M. Godoy. *Accessibility constraints in structural optimization via distance functions*. In: **Journal of Computational Physics** 484, 2023, p. 112083. doi: [10.1016/j.jcp.2023.112083](https://doi.org/10.1016/j.jcp.2023.112083)
24. B. Bogosel, G. Buttazzo and E. Oudet. *On the numerical approximation of Blaschke–Santaló diagrams using Centroidal Voronoi Tessellations*. In: **ESAIM: Mathematical Modelling and Numerical Analysis** 58.1, 2024, pp. 393–420. doi: [10.1051/m2an/2023092](https://doi.org/10.1051/m2an/2023092)
25. B. Bogosel, D. Bucur and I. Fragalà. *The nonlocal isoperimetric problem for polygons: Hardy–Littlewood and Riesz inequalities*. In: **Mathematische Annalen** 389.2, 2023, pp. 1835–1882. doi: [10.1007/s00208-023-02683-x](https://doi.org/10.1007/s00208-023-02683-x)
26. B. Bogosel and D. Bucur. *On the polygonal Faber–Krahn inequality*. In: **Journal de l’École polytechnique — Mathématiques** 11, 2023, pp. 19–105. doi: [10.5802/jep.250](https://doi.org/10.5802/jep.250)
27. B. Bogosel. *Volume Computation for Meissner Polyhedra and Applications*. In: **Discrete & Computational Geometry**, 2024. doi: [10.1007/s00454-024-00688-0](https://doi.org/10.1007/s00454-024-00688-0)
28. B. Bogosel. *Mixed volumes and the Blaschke–Lebesgue theorem*. In: **Acta Mathematica Hungarica** 173.1, 2024, pp. 122–138. doi: [10.1007/s10474-024-01435-w](https://doi.org/10.1007/s10474-024-01435-w)
29. B. Bogosel, A. Henrot and M. Michetti. *Optimization of Neumann Eigenvalues Under Convexity and Geometric Constraints*. In: **SIAM Journal on Mathematical Analysis** 56.6, 2024, pp. 7327–7349. doi: [10.1137/24m1641099](https://doi.org/10.1137/24m1641099)
30. B. Bogosel. *A reverse isoperimetric inequality for convex shapes with inclusion constraint*. In: **Journal of Mathematical Analysis and Applications** 540.2, 2024, p. 128636. doi: [10.1016/j.jmaa.2024.128636](https://doi.org/10.1016/j.jmaa.2024.128636)

31. S. Amstutz and B. Bogosel. *Nonlocal approximation of the anisotropic perimeter and application to topology optimization*. In: **ESAIM: Control, Optimisation and Calculus of Variations**, 2024. doi: [10.1051/cocv/2024071](https://doi.org/10.1051/cocv/2024071)
32. P. R. Antunes and B. Bogosel. *Optimization of the Steklov-Lamé eigenvalues with respect to the domain*. In: **Journal of Differential Equations** 426, 2025, pp. 1–35. doi: [10.1016/j.jde.2025.01.043](https://doi.org/10.1016/j.jde.2025.01.043)
33. B. Bogosel. *Optimal Finsler–Hadwiger Inequalities*. In: **Results in Mathematics** 80.3, 2025. doi: [10.1007/s00025-025-02405-6](https://doi.org/10.1007/s00025-025-02405-6)
34. B. Bogosel. *New variational arguments regarding the Blaschke–Lebesgue theorem*. In: **Expositiones Mathematicae** 43.5, 2025, p. 125700. doi: [10.1016/j.exmath.2025.125700](https://doi.org/10.1016/j.exmath.2025.125700)

ACCEPTED PUBLICATIONS

1. B. Bogosel. *On the Blaschke-Lebesgue theorem for the Cheeger constant via areas and perimeters of inner parallel sets*. working paper or preprint. 2023 Accepted in *Annales de l’Institut Fourier*

SUBMITTED

1. B. Bogosel and D. Bucur. *Polygonal Faber-Krahn inequality: Local minimality via validated computing*. 2024. arXiv: [2406.11575](https://arxiv.org/abs/2406.11575) [[math.NA](#)] Submitted to *Communications in Contemporary Mathematics*
2. B. Bogosel, I. Mazari and G. Nadin. *Optimisation of space-time periodic eigenvalues*. working paper or preprint. 2025 Submitted to *Annali della Scuola Normale Superiore di Pisa*

PROCEEDINGS, CHAPTERS

1. B. Bogosel. *Discrete version of an optimal partitioning problem*. In: *Difference equations, discrete dynamical systems and applications*. Vol. 287. Springer Proc. Math. Stat. Springer, Cham, 2019, pp. 247–256. doi: https://doi.org/10.1007/978-3-030-20016-9_9

2. B. Bogosel and V. Bonnaillie-Noël. *Optimal partitions for the sum and the maximum of eigenvalues*. In: Fourteenth International Conference Zaragoza-Pau on Mathematics and its Applications. Vol. 41. Monogr. Mat. García Galdeano. Prensas Univ. Zaragoza, Zaragoza, 2018, pp. 41–53

EXPOSITORY MATHEMATICS

1. B. Bogosel. *A geometric proof of the Siebeck-Marden theorem*. In: **Amer. Math. Monthly** 124.5, 2017, pp. 459–463. doi: [10.4169/amer.math.monthly.124.5.459](https://doi.org/10.4169/amer.math.monthly.124.5.459)
2. B. Bogosel. *A Geometric Proof of the Polygonal Isoperimetric Inequality*. In: **The Mathematical Intelligencer**, 2024. doi: [10.1007/s00283-024-10366-x](https://doi.org/10.1007/s00283-024-10366-x)