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Bibliography

- [1] S. Van Aert, K.J. Batenburg, M. Rossell, R. Erni, and G. Van Tendeloo. Three-dimensional atomic imaging of crystalline nanoparticles. *Nature*, 470:374–377, 2011.
- [2] A. Alpers. *Instability and Stability in Discrete Tomography*. PhD thesis, Technische Universität München, 2003. Shaker Verlag, ISBN 3-8322-2355-X.
- [3] A. Alpers and S. Brunetti. Stability results for the reconstruction of binary pictures from two projections. *Image and Vision Computing*, 25(10):1599–1608, 2007.
- [4] A. Alpers and P. Gritzmann. On stability, error correction, and noise compensation in discrete tomography. *SIAM Journal on Discrete Mathematics*, 20(1):227–239, 2006.
- [5] K. J. Batenburg. Analysis and optimization of an algorithm for discrete tomography. *Electr. Notes Discrete Math.*, 12:35–46, 2003.
- [6] K. J. Batenburg. A network flow algorithm for reconstructing binary images from continuous X-rays. *J. Math. Im. Vision*, 30(3):231–248, 2008.
- [7] K. J. Batenburg, S. Bals, J. Sijbers, C. Kübel, P. A. Midgley, J. C. Hernandez, U. Kaiser, E. R. Encina, E. A. Coronado, and G. Van Tendeloo. 3D imaging of nanomaterials by discrete tomography. *Ultramicroscopy*, 109(6):730–740, 2009.
- [8] K. J. Batenburg and J. Sijbers. Generic iterative subset algorithms for discrete tomography. *Discrete Appl. Math.*, 157(3):438–451, 2009.
- [9] K. J. Batenburg and J. Sijbers. Dart: a practical reconstruction algorithm for discrete tomography. *IEEE Trans. Image Processing*, 20(9):2542–2553, 2011.
- [10] J. Beck and T. Fiala. Integer-making theorems. *Discr. Appl. Math.*, 3:1–8, 1981.
- [11] A. Ben-Israel and T. N. E. Greville. *Generalized inverses: Theory and Applications*. Canadian Math. Soc., 2002.
- [12] Å Björck. *Numerical Methods for Least Square Problems*. SIAM, Linköping University, Sweden, 1996.
- [13] Y. Censor. Row-action methods for huge and sparse systems and their applications. *SIAM review*, 23(4):444–466, 1981.

- [14] G.-H. Chen, J. Tang, and S. Leng. Prior image constrained compressed sensing (PICCS): A method to accurately reconstruct dynamic CT images from highly undersampled projection data sets. *Medical Physics*, 35(2):660–663, 2008.
- [15] R. A. Crowther, D. J. DeRosier, and A. Klug. The reconstruction of a three-dimensional structure from projections and its application to electron microscopy. *Proceedings of the Royal Society of London. A. Mathematical and Physical Sciences*, 317(1530):319–340, 1970.
- [16] D. Donoho. Compressed sensing. *IEEE Trans. Information Theory*, 52(4):1289–1306, 2006.
- [17] A. Frosini and M. Nivat. Binary matrices under the microscope: A tomographical problem. *Theoretical Computer Science*, 370:201–217, 2007.
- [18] A. Frosini, M. Nivat, and S. Rinaldi. Scanning integer matrices by means of two rectangular windows. *Theoretical Computer Science*, 406:90–96, 2008.
- [19] M. Gara, T. Samuel Tasi, and P. Balazs. Learning connectedness and convexity of binary images from their projections. *Pure Math. Appl.*, 20(1-2):27–48, 2009.
- [20] R. J. Gardner, P. Gritzmann, and D. Prangenberg. On the computational complexity of reconstructing lattice sets from their X-rays. *Discrete Math.*, 202:45–71, 1999.
- [21] R. Gordon, R. Bender, and G. T. Herman. Algebraic reconstruction techniques (art) for three-dimensional electron microscopy and x-ray photography. *J. Theor. Biol.*, 29(3):471–481, 1970.
- [22] L. Hajdu and R. Tijdeman. Algebraic aspects of discrete tomography. *J. Reine Angew. Math.*, 534:119–128, 2001.
- [23] Lajos Hajdu and Robert Tijdeman. Bounds for approximate discrete tomography solutions. *SIAM J. Discrete Math.*, 27(2):1055–1066, 2013.
- [24] S. Helgason. *The Radon transform*. Birkhäuser, Boston, 1980.
- [25] G. T. Herman. *Fundamentals of Computerized Tomography: Image reconstruction from projections*. Springer, 2009.
- [26] G. T. Herman. *Fundamentals of Computerized Tomography*. Springer, second edition, 2010.
- [27] G. T. Herman and A. Kuba, editors. *Discrete Tomography: Foundations, Algorithms and Applications*. Birkhäuser, Boston, 1999.
- [28] G. T. Herman and A. Kuba, editors. *Advances in Discrete Tomography and its Applications*. Birkhäuser, Boston, 2007.
- [29] G.T. Herman and A. Kuba. Discrete tomography in medical imaging. In *Proc. of IEEE 91*, pages 1612–1626, 2003.

- [30] Nicholas J. Higham. *Accuracy and Stability of Numerical Algorithms*. pub-SIAM, pub-SIAM:adr, second edition, 2002.
- [31] J. R. Jinschek, K. J. Batenburg, H. A. Calderon, R. Kilaas, V. Radmilovic, and C. Kisielowski. 3-D reconstruction of the atomic positions in a simulated gold nanocrystal based on discrete tomography. *Ultramicroscopy*, 108(6):589–604, 2007.
- [32] P. M. Joseph. An improved algorithm for reprojecting rays through pixel images. *IEEE Trans. Med. Imag.*, MI-1(3):192–196, 1982.
- [33] A. C. Kak and M. Slaney. *Principles of Computerized Tomographic Imaging*. SIAM, 2001.
- [34] Li. Li, V. Stankovic, L. Stankovic, Lijie. Li, S. Cheng, and D. Uttamchandani. Single pixel optical imaging using a scanning mems mirror. *J. Micromech. Microeng.*, 21:025022, 2011.
- [35] A. K. Louis. Nonuniqueness in inverse radon problems: The frequency distribution of the ghosts. *Mathematische Zeitschrift*, 185(3):429–440, 1984.
- [36] P. A. Midgley and R. E. Dunin-Borkowski. Electron tomography and holography in materials science. *Nature Materials*, 8(4):271–280, 2009.
- [37] K. Mueller. *Fast and accurate three-dimensional reconstruction from cone-beam projection data using algebraic methods*. PhD thesis, The Ohio State University, 1998.
- [38] F. Natterer. *The mathematics of computerized tomography*. John Wiley & Sons, 1986.
- [39] Y. Saad. *Iterative Methods for Sparse Linear Systems*. SIAM, Philadelphia, PA, USA, 2003.
- [40] Th. Schüle, C. Schnörr, S. Weber, and J. Hornegger. Discrete tomography by convex-concave regularization and D.C. programming. *Discr. Appl. Math.*, 151:229–243, 2005.
- [41] E. Y. Sidky, M. A. Anastasio, and X. Pan. Image reconstruction exploiting object sparsity in boundary-enhanced X-ray phase-contrast tomography. *Optics Express*, 18(10):10404–10422, 2010.
- [42] E. Y. Sidky, C. M. Kao, and X. Pan. Accurate image reconstruction from few-views and limited-angle data in divergent-beam CT. *J. X-ray Sci. Tech.*, 14:119–139, 2006.
- [43] A. Stolk and K. J. Batenburg. An algebraic framework for discrete tomography: Revealing the structure of dependencies. *SIAM J. Discrete Math.*, 24(3):1056–1079, 2010.
- [44] B. Van Dalen. On the difference between solutions of discrete tomography problems. *Journal of Combinatorics and Number Theory*, 1:15–29, 2009.
- [45] B. Van Dalen. On the difference between solutions of discrete tomography problems II. *Pure Mathematics and Applications*, 20:103–112, 2009.

- [46] B. Van Dalen. Stability results for uniquely determined sets from two directions in discrete tomography. *Discrete Mathematics*, 309:3905–3916, 2009.
- [47] A. van der Sluis and H. A. van der Vorst. SIRT and CG-type methods for the iterative solution of sparse linear least-squares problems. *Linear Algebra Appl.*, 130:257–302, 1990.
- [48] R. von Mises and H. Pollaczek-Geiringer. Praktische verfahren der gleichungsaufösung. *ZAMM - Zeitschrift für Angewandte Mathematik und Mechanik.*, 9:152–164, 1929.
- [49] M. Wakin, J. Laska, M. Duarte, D. Baron, S. Sarvotham, D. Takhar, K. Kelly, and R. Baraniuk. An architecture for compressive imaging. In *Proceedings of the International Conference on Image Processing (ICIP)*, pages 1273–1276, 2006.
- [50] J. Zhua, X. Li, Y. Ye, and G. Wang. Analysis on the strip-based projection model for discrete tomography. *Discrete Appl. Math.*, 156(12):2359–2367, 2008.
- [51] D. A. Zolotov, A. V. Buzmakov, A. A. Shiryayev, and V. E. Asadchikov. X-ray computer tomography of natural fibrous diamonds and ballas. *Journal of Surface Investigation.*, 3(5):659–664, 2009.