

John Sylvester – Publications December 5, 2016

- [61] Tilo Arens and John Sylvester. Born non-scattering electromagnetic media. *J. Inverse Ill-Posed Prob.*, 2016. Accepted August 2016.
- [60] Eemeli Blästen and John Sylvester. Translation invariant estimates for operators with simple characteristics. Submitted September 2016, 2016.
- [59] Roland Griesmaier and John Sylvester. Uncertainty principles for inverse source problems, far field splitting and data completion. *SIAM J. Appl. Math.*, 2017. Accepted.
- [58] Roland Griesmaier and John Sylvester. Far field splitting by iteratively reweighted ℓ^1 minimization. *SIAM J. Appl. Math.*, 76(2):705–730, 2016.
- [57] Eemeli Blästen, Lassi Päivärinta, and John Sylvester. Corners always scatter. *Comm. Math. Phys.*, 331(2):725–753, 2014.
- [56] Roland Griesmaier, Martin Hanke, and John Sylvester. Far field splitting for the Helmholtz equation. *SIAM J. Numer. Anal.*, 52(1):343–362, 2014.
- [55] John Sylvester. Transmission eigenvalues in one dimension. *Inverse Problems*, 29(10):104009, 11, 2013.
- [54] John Sylvester. Discreteness of transmission eigenvalues via upper triangular compact operators. *SIAM J. Math. Anal.*, 44(1):341–354, 2012.
- [53] Valery Serov and John Sylvester. Transmission eigenvalues for degenerate and singular cases. *Inverse Problems*, 28(6):065004, 8, 2012.
- [52] John Sylvester. An estimate for the free Helmholtz equation that scales. *Inverse Probl. Imaging*, 3(2):333–351, 2009.
- [51] Lassi Päivärinta and John Sylvester. Transmission eigenvalues. *SIAM J. Math. Anal.*, 40(2):738–753, 2008.
- [50] David Colton, Lassi Päivärinta, and John Sylvester. The interior transmission problem. *Inverse Probl. Imaging*, 1(1):13–28, 2007.
- [49] John Sylvester. Notions of support for far fields. *Inverse Problems*, 22(4):1273–1288, 2006.
- [48] Housseem Haddar, Steven Kusiak, and John Sylvester. The convex back-scattering support. *SIAM J. Appl. Math.*, 66(2):591–615 (electronic), 2005.
- [47] John Sylvester and James Kelly. A scattering support for broadband sparse far field measurements. *Inverse Problems*, 21(2):759–771, 2005.
- [46] John Sylvester and Dale Winebrenner. Experiments that don’t measure something. *preprint*, 2005.

- [45] Steven Kusiak and John Sylvester. The convex scattering support in a background medium. *SIAM J. Math. Anal.*, 36(4):1142–1158 (electronic), 2005.
- [44] Roland Potthast, John Sylvester, and Steven Kusiak. A ‘range test’ for determining scatterers with unknown physical properties. *Inverse Problems*, 19(3):533–547, 2003.
- [43] Steven Kusiak and John Sylvester. The scattering support. *Comm. Pure Appl. Math.*, 56(11):1525–1548, 2003.
- [42] Krzysztof Burdzy, Zhen-Qing Chen, and John Sylvester. The heat equation and reflected Brownian motion in time-dependent domains. *Ann. Probab.*, 32(1B):775–804, 2004.
- [41] Krzysztof Burdzy, Zhen-Qing Chen, and John Sylvester. The heat equation and reflected Brownian motion in time-dependent domains. II. Singularities of solutions. *J. Funct. Anal.*, 204(1):1–34, 2003.
- [40] Chris Burdzy, Zhen-Qing Chen, and John Sylvester. The heat equation in time dependent domains with insulated boundaries. *J. Math. Anal. Appl.*, 294(2):581–595, 2004.
- [39] John Sylvester. Layer stripping. In *Surveys on solution methods for inverse problems*, pages 83–106. Springer, Vienna, 2000.
- [38] John Sylvester and Dale P. Winebrenner. Linear and nonlinear inverse scattering. *SIAM J. Appl. Math.*, 59(2):669–699 (electronic), 1999.
- [37] Golden, Cheney, Ding, Fung, Grenfell, Isaacson, Kong, Nghiem, Sylvester, and Winebrenner. Forward electromagnetic scattering models for sea ice. *IEEE Transactions in Geoscience and Remote Sensing*, 36(5):1655 – 1675, 1998.
- [36] Golden, Borup, Cheney, Cherkeva, Dawson, Ding, Fung, Grenfell, Isaacson, Johnson, Jordan, Kong, Kwok, Nghiem, Onstott, Sylvester, Winebrenner, and Zabel. Inverse electromagnetic scattering models for sea ice. *IEEE Transactions in Geoscience and Remote Sensing*, 36(5):1675 – 1704, 1998.
- [35] John Sylvester and Dale P. Winebrenner. 1-D inverse scattering via the Riesz transform. In *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, pages 239–243. SIAM, Philadelphia, PA, 1998.
- [34] John Sylvester. On the layer stripping approach to a 1-D inverse problem. In *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, volume 90 of *IMA Vol. Math. Appl.*, pages 453–462. Springer, New York, 1997.
- [33] John Sylvester, Dale Winebrenner, and Fred Gyls-Colwell. Layer stripping for the Helmholtz equation. *SIAM J. Appl. Math.*, 56(3):736–754, 1996.

- [32] John Sylvester. Nonlinear and linear inverse scattering. In *Proceedings of the IEEE Workshop on Rough Surface Scattering*. June 1996.
- [31] J. Sylvester. Inverse boundary value problems. An overview. *Algebra i Analiz*, 8(2):195–204, 1996.
- [30] John Sylvester and Dale Winebrenner. Inversion of wideband microwave reflectivity to estimate the thickness of arctic lead-like sea ice. *IEEE Geosci. & Remote Sensing Soc.*, 2:1205–1207, 1996.
- [29] John Sylvester. Inverse problems via layer stripping. In *Mathematical and numerical aspects of wave propagation (Mandelieu-La Napoule, 1995)*, pages 48–55. SIAM, Philadelphia, PA, 1995.
- [28] John Sylvester. Some new results in 1D inverse scattering. In *Journées “Équations aux Dérivées Partielles” (Saint-Jean-de-Monts, 1995)*, pages Exp. No. XV, 6. École Polytech., Palaiseau, 1995.
- [27] John Sylvester. Inverse problems via layer stripping. In *Mathematical and numerical aspects of wave propagation (Mandelieu-La Napoule, 1995)*, pages 48–55. SIAM, Philadelphia, PA, 1995.
- [26] John Sylvester. The Cauchy data and the scattering amplitude. *Comm. Partial Differential Equations*, 19(9-10):1735–1741, 1994.
- [25] John Sylvester and Dale Winebrenner. Forward and inverse signature modeling for congelation ice. *IEEE Geosci. & Remote Sensing Soc.*, 2:620–622, 1994.
- [24] Victor Isakov and John Sylvester. Global uniqueness for a semilinear elliptic inverse problem. *Comm. Pure Appl. Math.*, 47(10):1403–1410, 1994.
- [23] John Sylvester. Impedance tomography and layer stripping. In *Inverse problems: principles and applications in geophysics, technology, and medicine (Potsdam, 1993)*, volume 74 of *Math. Res.*, pages 307–321. Akademie-Verlag, Berlin, 1993.
- [22] John Sylvester. Linearizations of anisotropic inverse problems. In *Inverse problems in mathematical physics (Saariselkä, 1992)*, volume 422 of *Lecture Notes in Phys.*, pages 231–241. Springer, Berlin, 1993.
- [21] Casper Curjel and John Sylvester. A computer lab for multivariable calculus. *College Math. Journal*, 24(2):175–177, 1993.
- [20] John Sylvester. A convergent layer stripping algorithm for the radially symmetric impedance tomography problem. *Comm. Partial Differential Equations*, 17(11-12):1955–1994, 1992.

- [19] John Sylvester and Gunther Uhlmann. Inverse problems in anisotropic media. In *Inverse scattering and applications (Amherst, MA, 1990)*, volume 122 of *Contemp. Math.*, pages 105–117. Amer. Math. Soc., Providence, RI, 1991.
- [18] John Sylvester. An anisotropic inverse boundary value problem. *Comm. Pure Appl. Math.*, 43(2):201–232, 1990.
- [17] Giovanni Alessandrini and John Sylvester. Stability for a multidimensional inverse spectral theorem. *Comm. Partial Differential Equations*, 15(5):711–736, 1990.
- [16] John Sylvester and Gunther Uhlmann. The Dirichlet to Neumann map and applications. In *Inverse problems in partial differential equations (Arcata, CA, 1989)*, pages 101–139. SIAM, Philadelphia, PA, 1990.
- [15] Gregory F. Lawler and John Sylvester. Determining resistances from boundary measurements in finite networks. *SIAM J. Discrete Math.*, 2(2):231–239, 1989.
- [14] John Sylvester and Gunther Uhlmann. Inverse boundary value problems at the boundary—continuous dependence. *Comm. Pure Appl. Math.*, 41(2):197–219, 1988.
- [13] John Sylvester and Gunther Uhlmann. Inverse boundary value problems. In *Partial differential equations (Rio de Janeiro, 1986)*, volume 1324 of *Lecture Notes in Math.*, pages 320–328. Springer, Berlin, 1988.
- [12] Adrian Nachman, John Sylvester, and Gunther Uhlmann. An n -dimensional Borg-Levinson theorem. *Comm. Math. Phys.*, 115(4):595–605, 1988.
- [11] John Sylvester and Gunther Uhlmann. Remarks on an inverse boundary value problem. In *Pseudodifferential operators (Oberwolfach, 1986)*, volume 1256 of *Lecture Notes in Math.*, pages 430–441. Springer, Berlin, 1987.
- [10] Dewhirst, Winget, Edelstein-Keshet, Sylvester, Engler, Thrall, Page, and Oleson. Clinical application of thermal isoeffect dose. *International Journal of Hyperthermia*, 3(4):307–318, 1987.
- [9] John Sylvester and Gunther Uhlmann. A global uniqueness theorem for an inverse boundary value problem. *Ann. of Math. (2)*, 125(1):153–169, 1987.
- [8] John Sylvester and Gunther Uhlmann. A uniqueness theorem for an inverse boundary value problem in electrical prospection. *Comm. Pure Appl. Math.*, 39(1):91–112, 1986.
- [7] John Sylvester. On the dimension of spaces of linear transformations satisfying rank conditions. *Linear Algebra Appl.*, 78:1–10, 1986.

- [6] John Sylvester. Correction to: “On the differentiability of $O(n)$ invariant functions of symmetric matrices” [Duke Math. J. **52** (1985), no. 2, 475–483; MR0792183 (86j:58018)]. *Duke Math. J.*, 53(4):1131–1132, 1986.
- [5] John Sylvester. On the differentiability of $O(n)$ invariant functions of symmetric matrices. *Duke Math. J.*, 52(2):475–483, 1985.
- [4] S. Friedland, J. W. Robbin, and J. H. Sylvester. On the crossing rule. *Comm. Pure Appl. Math.*, 37(1):19–37, 1984.
- [3] John Sylvester. Some conditions equivalent to strong hyperbolicity. *Math. Sciences Res. Inst. Preprint Series*, 1983.
- [2] John Sylvester. A generalization of the Leray-Schauder index formula. *J. Funct. Anal.*, 45(2):213–225, 1982.
- [1] Percy Deift and John Sylvester. Some remarks on the shape-from-shading problem in computer vision. *J. Math. Anal. Appl.*, 84(1):235–248, 1981.