List of publications

August 29, 2024

Tyni, <u>Teemu</u>

Please find the up-to-date list of publications on my personal web page:
https://www.mv.helsinki.fi/home/tyniteem/research/

A. Peer-reviewed scientific articles

1. Lassas M, Liimatainen T, Potenciano-Machado L, and Tyni T, *Stability and Lorentzian geometry for an inverse problem of a semi-linear wave equation*, Analysis & PDE (in press), 2024.

2. Lin Y-H, Tyni T, and Zimmerman P, *Well-posedness and inverse problems for semilinear nonlocal wave equations*, Nonlinear anal., **247**, 113601, 2024.

3. Alexakis S., Stinchcombe, A., and Tyni T. *A boundary integral equations approach to electrical impedance tomography: experiments on the KTC2023 data*, AIMS Appl. Math. Mod. Chal., **2**:2, 228–242, 2024.

4. Tyni T, Stinchcombe A R, and Alexakis S, *A boundary integral equation method for the complete electrode model in electrical impedance tomography with tests on real-world data*, SIAM J. Imag. Sci, **17**:1, 2024.

5. Covi G, Railo J, Tyni T, and Zimmerman P, *Stability estimates for the inverse fractional conductivity problem*, SIAM J. Math. Anal. **56**:2, 2024.

6. Lassas M, Liimatainen T, Potenciano-Machado L, and Tyni T, *An inverse problem for a semi-linear wave equation: a numerical study*, Inv. Prob. Imag. **18**:1, 62–85, 2024.

7. Lassas M, Liimatainen T, Potenciano-Machado L and Tyni T, *Uniqueness, reconstruction and stability for an inverse problem of a semi-linear wave equation*, J. Differ. Equ., **337**, 395-435, 2022.

8. Liimatainen T, Lin Y-H, Salo M and Tyni T, *Inverse problems for elliptic equations with fractional power type nonlinearities*, J. Differ. Equ., **306**, 189-219, 2022.

9. Harju M, Kultima J, Serov V and Tyni T, *Two-dimensional inverse scattering for quasi-linear biharmonic operator*, Inverse Prob. Imag. **15**(5) 1015-1033, 2021.

10. Brander T, Ilmavirta J, Piiroinen P and Tyni T, *Optimal recovery of a radiating source with multiple frequencies along one line*, Inverse Prob. Imag. **14**(6): 967-983, 2020.

11. Tyni T, *Numerical results for Saito's uniqueness theorem in inverse scattering theory*, Inverse Problems, **35**(6), 065002, 2020.

12. Serov V and Tyni T, *Inverse medium problem for a singular contrast*, J. Math. Phys. **60**, 111508, 2019.

13. Tyni T and Serov V, *Inverse scattering problem for quasi-linear perturbation of the biharmonic operator on the line*, Inverse Prob. Imag., **13**(1): 159–175, 2018. DOI: 10.3934/ipi.2019009

14. Tyni T, *Recovery of singularities from a backscattering Born approximation for a biharmonic operator in 3D*, Inverse Problems, **34**, 045007, 2018.

15. Tyni T and Serov V, *Scattering problems for perturbations of the multidimensional biharmonic operator*, Inverse Prob. Imag., **12**(1): 205–227, 2018.

16. Tyni T and Harju M, *Inverse backscattering problem for perturbations of biharmonic operator*, Inverse Problems, **33**, 105002, 2017.

17. Serov V and Tyni T, *Inverse Scattering Problems for Perturbed Bi-harmonic Operator*, AIP Conference Proceedings 1776, 2016.

18. Tyni T, Harju M and Serov V, *Recovery of singularities in fourth order operator on the line from limited data*, Inverse Problems, **32**, 075001, 2016.

B. Non-refereed scientific articles and preprints

1. Lin Y-H, Tyni T, and Zimmerman P, *Optimal Runge approximation for nonlocal wave equations and unique determination of polyhomogeneous nonlinearities*, Preprint arxiv:2408.13869, August, 2024.

Theses

1. Tyni T, *Direct and inverse scattering problems for perturbations of the biharmonic operator*, Doctoral dissertation, Acta Universitatis Ouluensis. A, Scientiae rerum naturalium, 725, Oulu, 2018.

2. Tyni T, *Direct and inverse scattering problems for operator of order 4 on the line*, Master's thesis, Oulu, 2015.