Research Outputs of Hongyu Liu (08/2024)

• Books/Monographs/Book Chapters

[1] H. Diao and H. Liu, *Spectral Geometry and Inverse Scattering Theory*, Springer, Cham, 2023. ISBN: 978-3-031-34614-9

[2] J. Li and H. Liu, *Numerical Methods for Inverse Scattering Problems*, Springer, Singapore, 2023. ISBN: 978-981-99-3771-4

[3] Y. Deng and H. Liu, *Spectral Theory of Localized Resonances and Applications*, Springer, Singapore, 2024. ISBN: 978-981-99-6246-4

[4] L. Borcea, H. Kang, H. Liu and G. Uhlmann, *Inverse Problems and Imaging*, Panoramas et Synthéses, Numéro 44, Société Mathématique de France, 2015. ISBN: 978-2-85629-793-3

[5] J. Li, H. Liu and J. Zou, *An efficient multilevel algorithm for inverse scattering problem*, Advances in Computation and Intelligence, Lecture Notes in Computer Science, Springer-Berlin, 2007.

• Patents

H. Liu and D. Ho, *Method and system for generating a 3D image of a body shape*, accepted for US patent, Priority No. 17/736,382.

J. Li and H. Liu, *A real-time medical monitoring and alerting method based on mobile devices* (in Chinese), accepted for China Patent, Application Number: CN201510727435.0, Publicity Number: CN105306717A.

H. Liu, P. Meng and W. Yin, *Contactless 3D body reconstruction technology based on inverse acoustic scattering method* (in Chinese), filed for China patent, CityU Reference Number: PWG/PA/1569/8/2023

• Journal Publications

Submitted

[1] H. Liu, C. W. K. Lo and S. Zhang, Decoding a mean field game by the Cauchy data around its unknown stationary states, `arXiv:2405.18943`

[2] M. Ding, H. Liu, C. W. K. Lo, Inverse problems for coupled nonlocal nonlinear systems arising in mathematical biology, `arXiv:2407.15713`

[3] Y. Deng, H. Liu and Y. Wang, On a seismo-electromagnetic inverse problem by geomagnetic monitoring, preprint, 2024.

[4] Y. Li, H. Liu and C. W. K. Lo, On inverse problems in multi-population aggregation models, `arXiv:2404.09837`

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[7] H. Liu and S. Zhang, Inverse boundary problem for a mean field game system with probability density constraint, arXiv:2402.13274

[8] Y. Deng, H. Liu and L. Zhu, Optimal estimate of electromagnetic field concentration between nearly-touching inclusions in the quasi-static regime, arXiv:2403.12697

[9] H. Liu and C. W. K. Lo, Determining state space anomalies in mean field games, arXiv:2405.18954

[10] M. Ding, R. Gong, H. Liu and C. W. K. Lo, Determining sources in the bioluminescence tomography problem, arXiv:2311.05191

[11] L. Chen and H. Liu, A scattering theory on hyperbolic spaces, arXiv:5194495

[12] H. Liu, Z. Miao and G. Zheng, Enhanced microscale hydrodynamical near-cloaking using electro-osmosis, arXiv:2310.14635

[13] H. Diao, H. Liu and Q. Meng, Dislocations with corners in an elastic body with applications to fault detection, arXiv:2309.09706

[14] Y. Jiang, H. Liu, T. Ni and K. Zhang, Inverse problems for nonlinear progressive waves, arXiv:2308.07808

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In Revision

[1] M. Ding, H. Liu and G. Zheng, Determining a stationary mean field game system from full/partial boundary measurement, *SIAM J. Math. Anal.*, arXiv:2308.06688

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