The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Computational Inversion with the Wasserstein Metrics
By

Prof. REN, Kui
Columbia University

Abstract

The quadratic Wasserstein distance has recently been proposed as an alternative to the classical L^2 distance for measuring data mismatch in computational inverse problems. Extensive computational evidences showing the advantages of using the Wasserstein distance has been reported. The objective of this talk is to provide some simple observations that might help us explain the numerically-observed differences between results based on the Wasserstein metrics and those based on the L^2 distance for general linear and nonlinear inverse data matching problems.

Bibliography

Prof. Ren is a professor in the Department of Applied Physics and Applied Mathematics at Columbia University. He received his B.S. from Nanjing University, and then obtained his Ph.D. from the Applied Mathematics program in 2006. Following his Ph.D., he moved to the University of Chicago where he worked as the L. E. Dickson instructor. In 2008, He joined the University of Texas at Austin as an assistant professor, and then moved to Columbia University in 2018.

Prof. Ren's research involves several aspects of applied and computational mathematics. His recent work include theoretical and numerical analysis of inverse problems related to partial differential equations with applications in biomedical imaging, mathematical modeling and computation of the propagation of high frequency acoustic/electromagnetic waves in random media, numerical and mathematical studies of random graphs and networks, as well as numerical algorithms for kinetic modeling of electrostatics and charge transport in semiconductor devices. He serves as an associate editor for *Inverse Problems*.

Date : 28 October, 2020 (Wednesday)
Time : 9:00-10:00 (Hong Kong Standard Time GMT +8)
Venue : Online Talk via Zoom(Meeting ID: 980 2313 2869)
Speaker: Prof. REN Kui, Columbia University
Host: Dr. Zhou Zhi, The Hong Kong Polytechnic University
Click to join : https://polyu.zoom.us/j/98023132869

Click to join (Zoom)

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