Dr. Zhen Lei

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Professor Zhen Lei is currently Professor and Dean of School of Mathematical Sciences at Fudan University, Vice President of the China Society of Industrial and Applied Mathematics, and Director of Fudan Center for Applied Mathematics. He received his Ph.D. in mathematics from Fudan University in 2006. Since 2011, he has been Ph.D. Advisor and Professor of the School of Mathematical Sciences at Fudan University. He was Postdoc at Caltech in 2007 and became the Princeton IAS member in 2014. Over the years he has held various visiting positions at Peking University, Penn State University, Courant Institute of Mathematical Sciences in NYU, California Institute of Technology, the Institute of Mathematical Sciences in CUHK, Department of Mathematics in NUS, Brown University, and Harvard University.

Professor Lei's research focuses on the mathematical theory of nonlinear wave and elastodynamic equations, Navier-Stokes equations and related PDEs arising in fluid dynamics. He introduces the concept of strong null condition and proves the global well-posedness of small amplitude solutions for incompressible elastodynamic systems in two dimensions.

Professor Lei's awards and honors include the Second Prize of the National Natural Science of China (2020), the XPLORER Prize (2022), the Shanghai Science and Technology Elite (2022), the Shiing Shen Chern Mathematics Award (2023) and etc. He has delivered more than 10 plenary talks at various international conferences. His work is highly regarded by a large number of leading mathematicians and has also made a wide impact among the peers. He is now the Deputy Editors-in-Chief of Chinese Annals of Mathematics, a Board Member of Discrete and Continuous Dynamical Systems, Fundamental Research, Communications on Pure and Applied Analysis, Annals of Applied Mathematics, etc.

Title: Global WP of Current-Vortex Sheets in 2D Ideal Incompressible MHD

Abstract:
I will talk about our recent work on the Global well-posedness of Current-Vortex Sheets in 2D Ideal Incompressible MHD. This is a joint work with Prof. Yuan Cai from Fudan University.