Yu Wang

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Profile

My research focuses on mathematical control theory for stochastic partial differential equations (SPDEs) and related inverse problems, which are fundamental for understanding systems affected by random disturbances.

Working experience

Southwest Jiaotong University, School of Mathematics, Jun. 2023 – present
Assistant Professor

FAU Erlangen-Nürnberg, Chair for Dynamics, Control, Machine Learning and Numerics, Sept. 2025 – present
Visiting Scholar

Education

Sichuan University, Ph.D. in Mathematics Sept. 2017 – Jun. 2023

Sichuan University, B.Sc. in Mathematics Sept. 2013 – Jun. 2017

Publications

Null controllability for semi-discrete stochastic semilinear parabolic equations
Y. Wang, Q. Zhao
ESAIM Control Optim. Calc. Var., (2025), Accepted. 10.1051/cocv/2025082

Exact controllability for a refined stochastic plate equation
Q. Lü, **Y. Wang**
Chin. Ann. Math. Ser. B, 46 (2025) 415–442, 10.1007/s11401-025-0023-2

Stability and regularization for ill-posed Cauchy problem of a stochastic parabolic differential equation
F. Dou, P. Lü, **Y. Wang**
Inverse Problem, 40 (2024), p. 115005. 10.1088/1361-6420/ad7f80

Null controllability for stochastic coupled systems of fourth order parabolic equations
Y. Wang
J. Math. Anal. Appl., 538 (2024), 128426. 10.1016/j.jmaa.2024.128426

Null Controllability for Fourth Order Stochastic Parabolic Equations
Q. Lü, **Y. Wang**
SIAM J. Control Optim., 60 (2022) 1563–1590. 10.1137/22M1472620

Preprints

An Inverse Source Problem for Semilinear Stochastic Hyperbolic Equations
Q. Lü, **Y. Wang**
arXiv: 2504.17398 (2025)

Inverse problems for stochastic partial differential equations
Q. Lü, **Y. Wang**
arXiv: 2411.05534 (2024)

Null controllability for stochastic fourth order semi-discrete parabolic equations
Y. Wang, Q. Zhao
arXiv: 2405.03257 (2024)

Funding

Controllability of fourth order semilinear stochastic partial differential equations 2025–2027
RMB 300K. National Natural Science Foundation of China (No. 12401589).

Controllability of a fourth-order coupled stochastic parabolic system 2024–2025
RMB 100K. Fundamental Research Funds for the Central Universities (No. 2682024CX013).

Academic Service

Reviewer for the following journals:

- SIAM Journal on Control and Optimization
- ESAIM: Control, Optimisation and Calculus of Variations
- Journal of Systems Science and Complexity
- Mathematical Control and Related Fields
- Science China Mathematics
- Applied Mathematics & Optimization
- Journal of Mathematical Analysis and Applications
- Chinese Annals of Mathematics, Series B