

List of Publications

Luan T. Hoang
September 7, 2026

- 55. Luan Hoang, Akif Ibragimov, *Linear non-divergence parabolic equations in non-cylindrical space-time sets*, 1–58, submitted.
DOI: 10.48550/arXiv.2608.02221
- 54. Emine Celik, Luan Hoang, Thinh Kieu, *A priori estimates for gaseous flows of Forchheimer-type in heterogeneous porous media*, 1–43, submitted.
DOI: 10.48550/arXiv.2505.11987 (Preprint)
- 53. Luan Hoang, *Asymptotic expansions with subordinate variables for solutions of the Navier–Stokes equations*, 1–40, submitted.
DOI: 10.48550/arXiv.2403.03132 (Preprint)
- 52. Luan Hoang, Michael S. Jolly, *An intrinsic expansion approach to the Galerkin approximations for the Navier–Stokes equations (with an appendix by Chengzhang Fu)*, Discrete and Continuous Dynamical Systems (2027), Vol. 59, 276–304.
DOI: 10.3934/dcds.2026167
- 51. Luan Hoang, Akif Ibragimov, *Linear non-divergence elliptic equations in a bounded, infinitely winding planar domain*, Complex Variables and Elliptic Equations (2026), 1–31, in press.
DOI: 10.1080/17476933.2026.2630197
- 50. Emine Celik, Luan Hoang, Thinh Kieu, *On compressible fluid flows of Forchheimer-type in rotating heterogeneous porous media*, Mathematical Methods in the Applied Sciences (2026), Vol. 49, No. 13, 15010–15055.
DOI: 10.1002/mma.70807
- 49. Luan Hoang, *A new form of asymptotic expansion for non-smooth differential equations with time-decaying forcing functions*, Differential Equations and Dynamical Systems, Vol. 34, No. 3, 697–741, 2026.
DOI: 10.1007/s12591-024-00703-z
- 48. Luan Hoang, Akif Ibragimov, *Asymptotic estimates for solutions of inhomogeneous non-divergence diffusion equations with drifts*, Journal of Mathematical Analysis and Applications, Volume 560, Issue 2, 15 August 2026, 130489 (34 pages).
DOI: 10.1016/j.jmaa.2026.130489
- 47. Luan Hoang, *On the finite time blow-ups for solutions of nonlinear differential equations*, Evolution Equations and Control Theory (June 2026), Vol. 20, 91–121.
DOI: 10.3934/eect.2026022
- 46. Luan Hoang, Akif Ibragimov, *A class of anisotropic diffusion-transport equations in non-divergence form*, Contemporary Mathematics. Fundamental Directions (2025), Vol. 71, No. 4, 663–685. (Russian) The English version is to appear in Journal of

Mathematical Sciences.

DOI: 10.22363/2413-3639-2025-71-4-663-685 (Russian)

DOI: 10.48550/arXiv.2503.03089 (English Preprint)

45. Luan Hoang, *Behavior near the extinction time for systems of differential equations with sublinear dissipation terms*, Electronic Journal of Differential Equations, Vol. 2025 (2025), No. 08, 1–26.
DOI: 10.58997/ejde.2025.08
44. Luan Hoang, Thinh Kieu, *Anisotropic flows of Forchheimer-type in porous media and their steady states*, Nonlinear Analysis: Real World Applications (August 2025), Vol. 84, 104269 (30 pp).
DOI: 10.1016/j.nonrwa.2024.104269
43. Luan Hoang, Michael S. Jolly, *Intrinsic expansions in large Grashof numbers for the steady states of the Navier–Stokes equations*, Nonlinearity (2024), Vol. 37, No. 12, 125008 (32 pp).
DOI: 10.1088/1361-6544/ad84aa
42. Luan Hoang, *Asymptotic expansions about infinity for solutions of nonlinear differential equations with coherently decaying forcing functions*, Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, Vol. XXV, No. 1 (2024), 311–370.
DOI: 10.2422/2036-2145.202109_004
41. Ciprian Foias, Luan Hoang, Michael S. Jolly, *On Galerkin approximations of the Navier–Stokes equations in the limit of large Grashof numbers*, Communications on Pure and Applied Analysis, Volume 23, Issue 2 (2024), 269–303.
DOI: 10.3934/cpaa.2024010
40. Luan Hoang, *The Navier–Stokes equations with body forces decaying coherently in time*, Journal of Mathematical Analysis and Applications, Vol. 531, Issue 2, Part 1 (2024), 127863 (39 pp).
DOI: 10.1016/j.jmaa.2023.127863
39. Luan Hoang, *Long-time behaviour of solutions of superlinear systems of differential equations*, Dynamical Systems, Vol. 39, No. 1 (2024), 79–107.
DOI: 10.1080/14689367.2023.2234845
38. Emine Celik, Luan Hoang, Thinh Kieu, *Studying a doubly nonlinear model of slightly compressible Forchheimer flows in rotating porous media*, Turkish Journal of Mathematics, Turkish Journal of Mathematics, Vol. 47, No. 3 (2023), 949–987.
DOI: 10.55730/1300-0098.3405
37. Dat Cao, Luan Hoang, Thinh Kieu, *Infinite series asymptotic expansions for decaying solutions of dissipative differential equations with non-smooth nonlinearity*, Qualitative Theory of Dynamical Systems, Volume 20, Issue 3 (2021), 62, 38 pp.
DOI: 10.1007/s12346-021-00502-9

36. Emine Celik, Luan Hoang, Thinh Kieu, *Slightly compressible Forchheimer flows in rotating porous media*, Journal of Mathematical Physics, Volume 62 (2021), Issue 7, 073101, 39 pp.
DOI: 10.1063/5.0047754
35. Dat Cao, Luan Hoang, *Asymptotic expansions with exponential, power, and logarithmic functions for non-autonomous nonlinear differential equations*, Journal of Evolution Equations, Volume 21, Issue 2, 1179–1225, 2021.
DOI: 10.1007/s00028-020-00622-w
34. Luan Hoang, *Asymptotic expansions for the Lagrangian trajectories from solutions of the Navier–Stokes equations*, Communications in Mathematical Physics, Volume 383, Issue 2, 981–995 (2021).
DOI: 10.1007/s00220-020-03863-5
33. Luan Hoang, Edriss Titi, *Asymptotic expansions in time for rotating incompressible viscous fluids*, Annales de l’Institut Henri Poincaré. Analyse Non Linéaire, Volume 38, Issue 1, January–February 2021, 109–137.
DOI: 10.1016/j.anihpc.2020.06.005
32. Dat Cao, Luan Hoang, *Asymptotic expansions in a general system of decaying functions for solutions of the Navier-Stokes equations*, Annali di Matematica Pura ed Applicata, Vol. 199, No. 3 (2020), 1023–1072.
DOI: 10.1007/s10231-019-00911-3
31. Dat Cao, Luan Hoang, *Long-time asymptotic expansions for Navier–Stokes equations with power-decaying forces*, Proceedings of the Royal Society of Edinburgh: Section A Mathematics, Vol. 150, No. 2 (2020), 569–606.
DOI: 10.1017/prm.2018.154
30. Luan Hoang, Thinh Kieu, *Global estimates for generalized Forchheimer flows of slightly compressible fluids*, Journal d’Analyse Mathématique, March 2019, Volume 137, Issue 1, 1–55.
DOI: 10.1007/s11854-018-0064-5
29. Emine Celik, Luan Hoang, Thinh Kieu, *Doubly nonlinear parabolic equations for a general class of Forchheimer gas flows in porous media*, Nonlinearity, Vol. 31, No. 8 (2018) 3617–3650.
DOI: 10.1088/1361-6544/aabf05
28. Ciprian Foias, Luan Hoang, Jean-Claude Saut, *Navier and Stokes meet Poincaré and Dulac*, J. Appl. Anal. Comput., Volume 8, Number 3, (June 2018) 727–763. (survey)
DOI: 10.11948/2018.727
27. Luan Hoang, Vincent Martinez, *Asymptotic expansion for solutions of the Navier-Stokes equations with non-potential body forces*, J. Math. Anal. Appl., Volume 462,

- Issue 1, (1 June 2018) 84–113.
DOI: 10.1016/j.jmaa.2018.01.065
26. Emine Celik, Luan Hoang, Thinh Kieu, *Generalized Forchheimer flows of isentropic gases*, J. Math. Fluid Mech., (March 2018) Volume 20, Issue 1, 83–115.
DOI: 10.1007/s00021-016-0313-2
 25. Luan Hoang, Eric Olson, James Robinson, *Continuity of pullback and uniform attractors*, J. Differential Equations, Volume 264, Issue 6, (15 March 2018) 4067–4093.
DOI: 10.1016/j.jde.2017.12.002
 24. Luan Hoang, Thinh Kieu, *Interior estimates for generalized Forchheimer flows of slightly compressible fluids*, Advanced Nonlinear Studies, 17(4), (October 2017) 739–767.
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 23. Luan Hoang, Vincent Martinez, *Asymptotic expansion in Gevrey spaces for solutions of Navier-Stokes equations*, Asymptotic Analysis, (2017), vol. 104, no. 3–4, 167–190.
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 22. Emine Celik, Luan Hoang, Akif Ibragimov, Thinh Kieu, *Fluid flows of mixed regimes in porous media*, J. Math. Phys., Volume 58 (2017), No. 2, 023102, 30 pp.
DOI: 10.1063/1.4976195
 21. Emine Celik, Luan Hoang, *Maximum estimates for generalized Forchheimer flows in heterogeneous porous media*, J. Differential Equations, Volume 262, Issue 3 (5 February 2017), 2158–2195.
DOI: 10.1016/j.jde.2016.10.043
 20. Luan Hoang, Truyen Nguyen, Tuoc Phan, *Local gradient estimates for degenerate elliptic equations*, Advanced Nonlinear Studies, Volume 16, Issue 3 (Aug 2016), 479–489.
DOI: 10.1515/ans-2015-5038
 19. Emine Celik, Luan Hoang, *Generalized Forchheimer flows in heterogeneous porous media*, Nonlinearity, Volume 29, Number 3 (March 2016), 1124–1155.
DOI: 10.1088/0951-7715/29/3/1124
 18. Luan Hoang, Akif Ibragimov, Thinh Kieu, Zeev Sobol, *Stability of solutions to generalized Forchheimer equations of any degree*, Journal of Mathematical Sciences (via journal “Problems in Mathematical Analysis”), Volume 210, Number 4 (2015), 476–544.
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 17. Luan Hoang, Eric Olson, James Robinson, *On the continuity of global attractors*, Proc. Amer. Math. Soc., Volume 143, Number 10 (2015), 4389–4395.
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16. Luan Hoang, Truyen Nguyen, Tuoc Phan, *Gradient estimates and global existence of smooth solutions to a cross-diffusion system*, SIAM Journal on Mathematical Analysis, SIAM Journal on Mathematical Analysis, Volume 47, Issue 3 (2015), 2122–2177.
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15. Luan Hoang, Akif Ibragimov, Thinh Kieu, *A family of steady two-phase generalized Forchheimer flows and their linear stability analysis*, J. Math. Phys. 55, Issue 12 (2014), 123101, 32 pp.
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14. Luan Hoang, Thinh Kieu, Tuoc Phan, *Properties of generalized Forchheimer flows in porous media*, “Problems of Mathematical Analysis”, volume 76 (July-August 2014), and in “Journal of Mathematical Sciences”, Vol. 202 No. 2 (October 2014), 259–332.
DOI: 10.1007/s10958-014-2045-2
13. Luan Hoang, *Incompressible fluids in thin domains with Navier friction boundary conditions (II)*, Journal of Mathematical Fluid Mechanics, Volume 15, Issue 2, (June 2013) 361–395.
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7. Luan Hoang, *Incompressible fluids with Navier friction boundary conditions in thin domains (I)*, Journal of Mathematical Fluid Mechanics, Volume 12, Number 3 (August

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 5. Ciprian Foias, Luan Hoang, Basil Nicolaenko, *On the helicity in 3D Navier–Stokes equations II: The statistical case*, Communications in Mathematical Physics, Volume 290, Issue 2 (2009), 679–717.
DOI: 10.1007/s00220-009-0827-z
 4. Ciprian Foias, Luan Hoang, Eric Olson, Mohammed Ziane, *The normal form of the Navier–Stokes equations in suitable normed spaces*, Annales de l’Institut Henri Poincaré - Analyse Non Linéaire, Volume 26, Issue 5 (September–October 2009), 1635–1673.
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 3. Luan Hoang, *A basic inequality for the Stokes operator related to the Navier boundary condition*, Journal of Differential Equations, Volume 245, Issue 9 (November 2008), 2585–2594.
DOI: 10.1016/j.jde.2008.01.024
 2. Ciprian Foias, Luan Hoang, Basil Nicolaenko, *On the helicity in 3D Navier–Stokes equations I: The non-statistical case*, Proceedings of the London Mathematical Society, Volume 94 Part 1 (January 2007) 53–90.
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 1. Ciprian Foias, Luan Hoang, Eric Olson, Mohammed Ziane, *On the solutions to the normal form of the Navier–Stokes equations*, Indiana University Mathematics Journal, Vol. 55, No 2 (2006) 631–686.
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