Publications
Toan T. Nguyen

Books

- Stability of Prandtl’s boundary layers, (w/ E. Grenier), 300 pp.
  Preliminary review for Springer Books, 2017.

Papers submitted for publication

7. Generator functions and their applications
   with E. Grenier

6. Green function for linearized Navier-Stokes around a boundary shear layer profile for long wavelengths
   with E. Grenier

5. Asymptotic stability of equilibria for screened Vlasov-Poisson systems via pointwise dispersive estimates
   with D. Han-Kwan and F. Rousset

4. On global stability of optimal rearrangement maps
   with H. Q. Nguyen

3. Green function for linearized Navier-Stokes around a boundary layer: the stable case
   with E. Grenier

2. Sharp bounds on linear semigroup of Navier Stokes with boundary layer norms
   with E. Grenier.

1. Nonlinear stability of source defects in oscillatory media
   with M. Beck, B. Sandstede, and K. Zumbrun

Publications

45. $L^\infty$ instability of Prandtl layers, with E. Grenier
   Annals of PDE, 2019.

44. On nonlinear instability of Prandtl’s boundary layers: the case of Rayleigh’s stable shear flows, w/ E. Grenier
   J. Math. Pures et Appliquées, accepted 2019.

43. Linear inviscid damping and enhanced viscous dissipation of shear flows by using the conjugate operator method
   with E. Grenier, F. Rousset, and A. Soffer
   Journal of Functional Analysis, 2019

42. Onsager type conjecture and renormalized solutions for the relativistic Vlasov Maxwell, w/ C. Bardos and N. Besse
   Quarterly of Applied Mathematics, 2019.

41. The inviscid limit of Navier-Stokes equations for vortex-wave data on $\mathbb{R}^2$, with Trinh Nguyen
   SIAM J. Math. Anal., 51 (2019), no. 3, 2575–2598.

40. Green function of Orr Sommerfeld equations away from critical layers, with E. Grenier
   SIAM J. Math. Anal., 51 (2019), no. 2, 1279-1296.

39. The inviscid limit of Navier-Stokes equations for analytic data on the half-space, with Trinh Nguyen
   Arch. Ration. Mech. Anal., 230 (2018), no. 3, 1103-1129.

38. Long time estimates in the non-relativistic regime of the Vlasov-Maxwell system, with D. Han-Kwan and F. Rousset.
   Comm. Math. Phys., 363 (2018), no. 2, 389-434

37. Sublayer of Prandtl boundary layers, with E. Grenier.
   Arch. Ration. Mech. Anal., 229 (2018), no. 3, 1139-1151.
36. The onset of instability in first order systems, with N. Lerner and B. Texier
Journal of the European Math. Society, 20 (2018), no. 6, 1303-1373.

35. On the kinetic equation in Zakharov's wave turbulence theory for capillary waves, with M.-B. Tran.
SIAM J. Math. Anal., 50 (2018), no. 2, 2020-2047.

34. Uniform in time lower bound for solutions to a Quantum Boltzmann of bosons, with M.-B. Tran
Arch. Ration. Mech. Anal., to appear, online 27 June 2018.

33. The Maxwell-Boltzmann approximation for ion kinetic modeling, w/ C. Bardos, F. Golse, and R. Sentis.
Physica D: Nonlinear Phenomena, 376/377 (2018), 94-107.

32. The vanishing viscosity limit for 2D Navier-Stokes in a rough domain, w/ D. Gerard-Varet, C. Lacave, F. Rousset.
J. Math. Pures et Appliquées, (9) 119 (2018), 45–84.

31. Prandtl boundary layer expansions of steady Navier-Stokes over a moving plate, with Y. Guo.
Annals of PDEs, 3 (2017), no. 1, Art. 10, 58 pp.

30. Instabilities in the mean field limit, with D. Han-Kwan
Journal of Statistical Physics, 162 (2016), no. 6, 1639-1653.

29. Illposedness of the hydrostatic Euler and singular Vlasov equations, with D. Han-Kwan
Arch. Ration. Mech. Anal., 221 (2016), no. 3, 1317-1344.

28. Instability of Vlasov-Maxwell systems in the classical and quasineutral limits, with D. Han-Kwan
SIAM J. Math. Anal., 48 (2016), no. 5, 3444-3466

27. Remarks on the inviscid limit for compressible flows, with C. Bardos.
Contemporary Mathematics, American Mathematical Society, 2016.

26. Spectral instability of symmetric shear flows in a two-dimensional channel, w/ E. Grenier and Y. Guo.
Advances in Math, 292 (2016), pp. 52–110.

25. Spectral instability of characteristic boundary layer flows, with E. Grenier and Y. Guo.
Duke Math J., 165 (2016), no. 16, 3085-3146

24. Global magnetic confinement for the 1.5D Vlasov-Maxwell system, with T.V. Nguyen and W.A. Strauss.
Kinetic and Related Models, 8 (2015), no. 1, 153-168.

23. Spectral stability of Prandtl boundary layers: an overview, with E Grenier and Y. Guo
Analysis (Berlin) 35 (2015), no. 4, 343-355.

22. Nonlinear stability of source defects in the complex Ginzburg-Landau equation, with M. Beck, B. Sandstede, and K. Zumbrun.
Nonlinearity, 27 (2014) 739-786

21. Topography influence on the Lake equations in bounded domains, with C. Lacave and B. Pausader,
J. Math. Fluid Mech., 16 (2014), no. 2, 375–406.

20. Stability Analysis of a Hot Plasma in a Solid Torus, with W. A. Strauss,
Arch. Ration. Mech. Anal., 211 (2014), no. 2, 619-672.

19. Stability analysis of collisionless plasmas with specularly reflecting boundary, with W. A. Strauss
SIAM J. Math. Anal., 45(2013), no. 2, 777–808.

18. Boundary layers interactions in the plane parallel incompressible flows (with F. Sueur)
Nonlinearity, 25 (2012) 3327–3342.

17. Toward nonlinear stability of sources via a modified Burgers (with Beck, Sandstede, and Zumbrun)
Physica D, 241 (2012), no. 4, 382–392.

16. Multi-dimensional stability of Lax shocks in hyperbolic-elliptic coupled systems
Journal of Differential Equations, 252 (2012), no. 1, 382–411.
15. Remarks on the ill-posedness of the Prandtl equation (with D. Gérard–Varet)
Asymptotic Analysis, 77 (2012), no. 1-2, 71–88.

14. A note on the Prandtl boundary layers (with Y. Guo)
Comm. Pure Appl. Math., 64 (2011), no. 10, 1416–1438.

13. Long-time stability of multi-dimensional noncharacteristic viscous boundary layers (with K. Zumbrun)
Comm. Math. Phys., 299 (2010), no. 1, 1–44.

12. On asymptotic stability of noncharacteristic viscous boundary layers.
SIAM J. Math. Anal., 42 (2010), no. 3, 1156–1178

11. Stability of radiative shock profiles for hyperbolic-elliptic coupled systems (w/ R. Plaza and K. Zumbrun)
Phys. D 239 (2010), no. 8, 428–453.

10. Stability of scalar radiative shock profiles (with C. Lattanzio, C. Mascia, R. Plaza, and K. Zumbrun)
SIAM J. Math. Anal. 41 (2009/10), no. 6, 2165–2206.

9. Stability of multi-dimensional viscous shocks for symmetric systems with variable multiplicities.
Duke Math. J. 150 (2009), no. 3, 577–614.

8. Long-time stability of large-amplitude noncharacteristic boundary layers of general hyperbolic-parabolic conservation laws (with K. Zumbrun)
J. Math. Pures Appl. (9) 92 (2009), no. 6, 547–598.

7. Spectral stability of noncharacteristic isentropic Navier–Stokes boundary layers (with N. Costanzino, J. Humpherys, and K. Zumbrun)
Arch. Ration. Mech. Anal. 192 (2009), no. 3, 537–587.

6. Regularity and coexistence problems for strongly coupled elliptic systems (with D. Le and L. Nguyen)
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5. Global attractors and uniform persistence for cross diffusion parabolic systems (with D. Le)
Dyn. Sys. and Apps. 16 (2007), no. 2, 361–377.

4. Everywhere regularity for degenerate cross diffusion systems (with D. Le)
Comm. in PDEs, 31 (2006), no. 1-3, 307–324.

3. Persistence for a class of triangular cross diffusion parabolic systems (with D. Le)
Adv. Non. Stud., 5 (2005), no. 4, 493–514.

2. Global existence for a class of triangular parabolic systems on domains of arbitrary dim. (with D. Le)
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1. Shigesada-Kawasaki-Teramoto model on higher dimensional domains (with D. Le and L. Nguyen)
Elec. J. Diff. Eqns., 2003, No. 72.

Proceeding Papers

2. E. Grenier, Y. Guo, and T. Nguyen, on the spectral instability of parallel shear flows.
Séminaire Laurent Schwartz - EDP et applications (2014-2015), Exp. No. 22, 14 pp.

1. T. Nguyen and K. Zumbrun, Long-time stability of noncharacteristic viscous boundary layers.
Séminaire Laurent Schwartz - EDP et applications (2009-2010), Exp. No. VI, 15 pp.