

Publication List

Theses

B-Phil Thesis (with Xinfu Chen): “Analytical and numerical results on escape”- University of Pittsburgh (2011)

Ph. D. Thesis (with Govind Menon): “Nonlinear Conservation Laws with Random Initial Conditions and the N-point Probability Function Hierarchy” – Brown University (2017)

Publications

1. [Analytical and numerical results for first escape time in 2D](#) (with Xinfu Chen) - *Comptes Rendus, C. R. Acad. Sci. Paris, Ser. I* 349 (2011) 191–194
2. [Analytical and numerical results for an escape problem](#) (with Xinfu Chen) - *Archive for Rat. Mech. Analysis* 203 (2012) 329–342
3. [Effects of white noise in multistable dynamics](#) (with Xinfu Chen, Jianghao Hao and Yajing Zhang) - *Discrete and Continuous Dynamical Systems B*, 18 (2013)1805-1825
4. [Valuation, Liquidity Price, and Stability of Cryptocurrencies](#) with G. Caginalp. *Proc. Nat. Acad. Sci.* 115 (2018) 1131-1134.
5. [The Quotient of Normal Random Variables and Application to Asset Price Fat Tails](#), with G. Caginalp. *Physica A* 499 (2018) 457-471.
6. [Hierarchies of N-point Functions for Nonlinear Conservation Laws with Random Initial Data](#), *Physica A* 503 (2019) 727-744.
7. [Minimization Solutions to Conservation Laws with Non-smooth and Non-Strictly Convex Flux](#). *AIMS Mathematics*, 2018, 3(1): 96-130. doi: 10.3934/Math.2018.1.96.
8. [A Minimization Approach to Conservation Laws with Random Initial Conditions and Non-smooth and Non-Strictly Convex Flux](#), *AIMS Mathematics*, 3(1): 148-182. Doi: 10.3934/Math.2018.1.148
9. “[A Dynamical Systems Approach to Cryptocurrency Stability](#),” *AIMS Mathematics* 2019, [Volume 4, Issue 4](#): 1065-1077. doi: [10.3934/math.2019.4.1065](#)
10. “A Survey of Results on Conservation Laws with Random and Deterministic Data”, *DCDS Series B* 23 (2018) 2043-2069.
11. “Conservation Laws with Random and Deterministic Data”, [arXiv:1708.02336](#)
12. “Establishing Cryptocurrency Equilibria Through Game Theory” with G Caginalp. *AIMS Mathematics*, 2019, [4\(3\)](#): 420-436. doi: [10.3934/math.2019.3.420](#)
13. “[Stochastic Asset Price Dynamics and Volatility Using a Symmetric Supply and Demand Price Equation](#)” with G. Caginalp, *Physica A* (2019).
14. “Asset Price Volatility and Price Extrema” with G. Caginalp, 2020, *Discrete and Continuous Dynamical Systems* 25, 1935-1958. doi: 10.3934/dcdsb.2020010
15. “[Price Equations with Symmetric Supply/Demand; Implications for Fat Tails](#)” with G. Caginalp, *Economics Letters*, 176 (2019) 79-82.

16. "[Stochastic asset price dynamics and volatility using a symmetric supply and demand price equation](#)" (with G. Caginalp), Physica A 523, (2019) 807-824.
17. "Cryptocurrency valuation, liquidity price and stability" (with G. Caginalp) in Proc. National Academy of Science, February, 115 (6), (2018) 1131-1134.
doi.org/10.1073/pnas.1722031115
18. "Derivation of non-classical stochastic price dynamics equations" (with G. Caginalp), Physica A: Statistical Mechanics and its Applications, 560, 2020
doi.org/10.1016/j.physa.2020.125118
19. "Stochastic asset flow equations: interdependence of trend and volatility," (with G. Caginalp and D. Swigon), 574 (2021) doi.org/10.1016/j.physa.2021.125985.