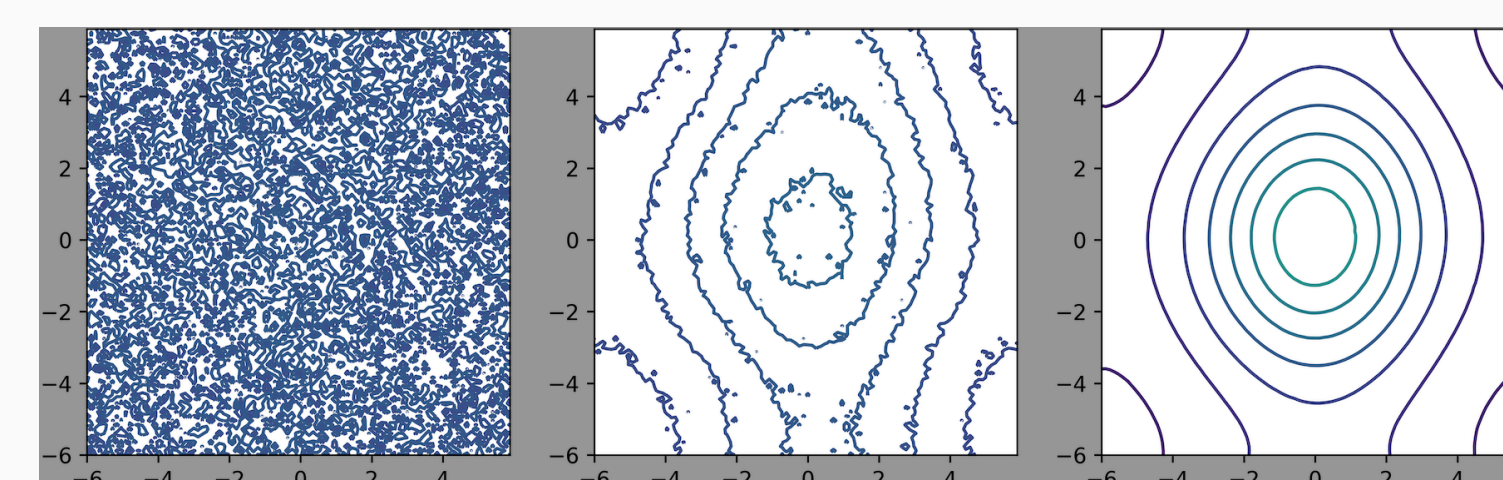


Analysis

Continuous optimization
 Introduction to control theory
 Spectral theory and variational methods
 Variational problems and optimal transport
 Variational and geodesic methods for image analysis
 Dynamics of semi-linear wave equation
 An introduction to hyperbolic systems of conservation laws
 Matrices aléatoires de grande taille et EDP (subject to change)
 Introduction to evolution PDEs
 Introduction to non linear elliptic PDEs

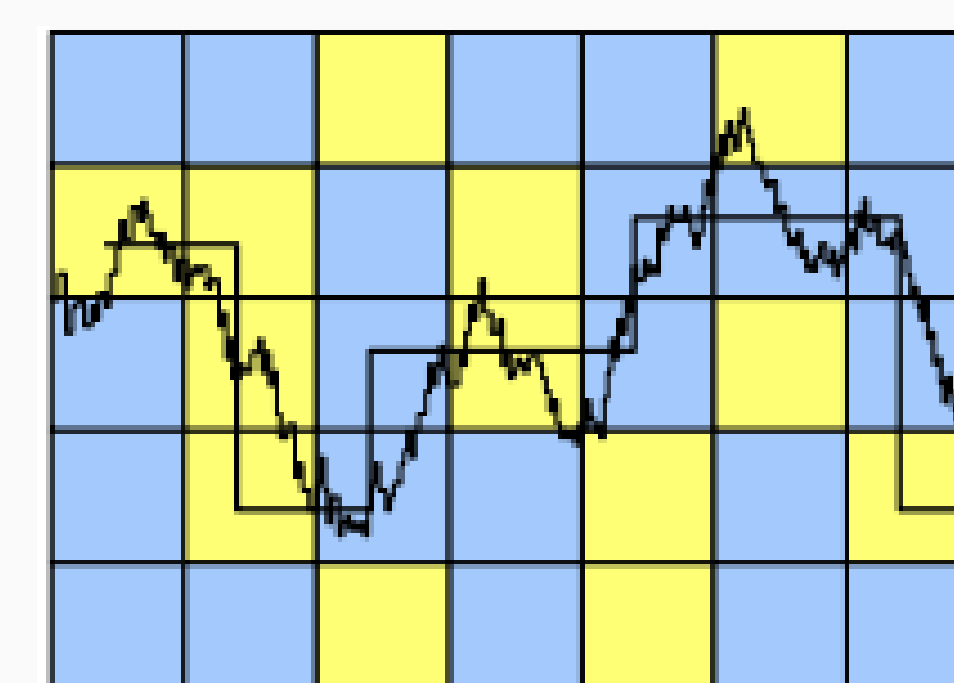
Chambolle, A.
 Bresch-Pietri, D.
 Cancès, É. and Lewin, M.
 Carlier, G.
 Cohen, L.
 Duyckaerts, T.
 Glass, O.
 Lions, P.-L.
 Mischler, S.
 Séré, É.



Probability

Stochastic calculus
 Limit theorems and large deviations
 Random walks and random media
 Determinantal processes, random matrices and hyperuniformity
 Integrable probability and the KPZ universality class
 Random geometric models
 High Dimensional Probability
 Continuous-time Markov processes
 Introduction to statistical mechanics

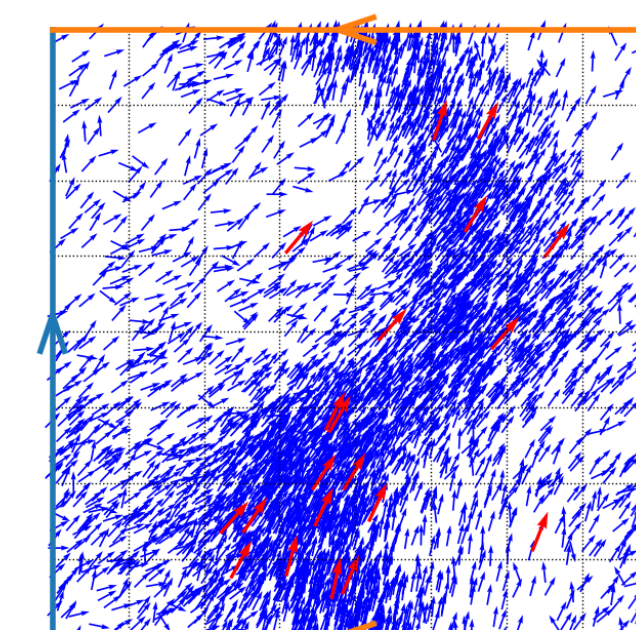
Hoffmann, M.
 Dagallier, B. and Simenhaus, F.
 Jegu, A. and François Simenhaus
 Lachièze-Rey, R.
 Barraquand, G.
 Błaszczyszyn, B.
 Chafaï, D.
 Salez, J.
 de Tilière, B. and Archer, E.



Interface of Analysis and Probability

Stochastic Control
 Entropy methods, functional inequalities and applications
 Mean field games theory
 Numerical methods for deterministic and stochastic problems
 Rough paths and SDE (course of the PMA M2)

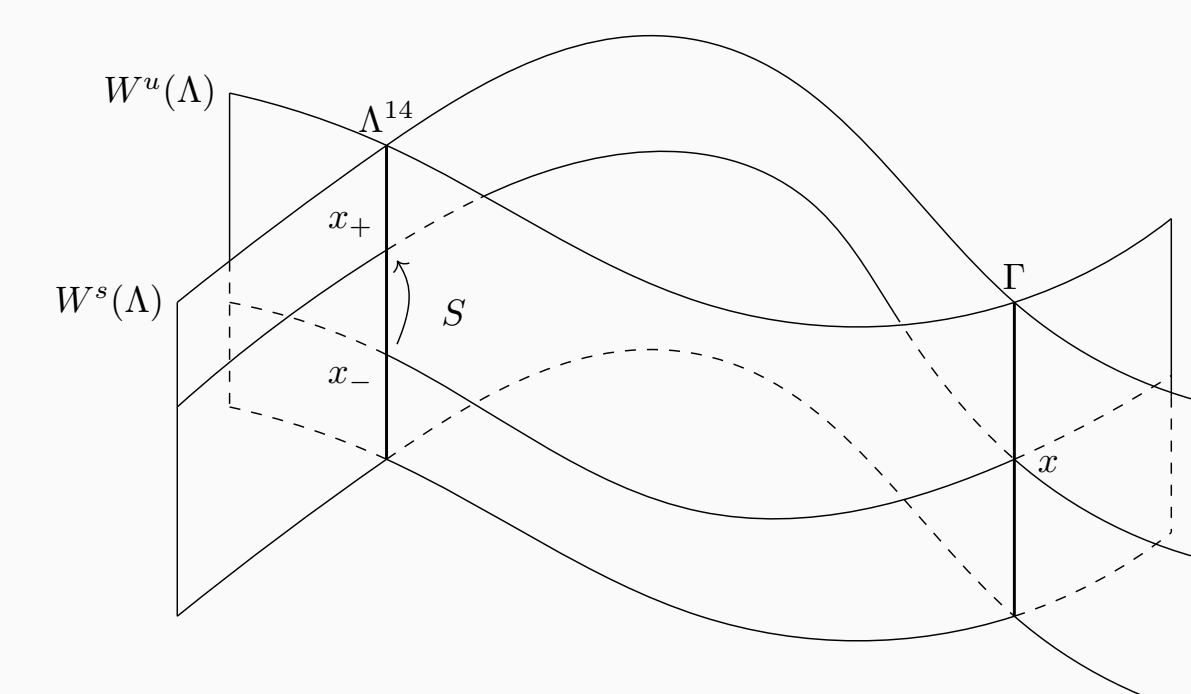
Bouchard, B. and Cardaliaguet, P.
 Bouin, E., Frouvelle, A. and Dolbeault, J.
 Cardaliaguet, P.
 Laguzet, L. Legendre, G. and Turinici, G.
 Zambotti, L.



Dynamical Systems and Geometry

Gravitation classique et mécanique céleste
 Introduction to dynamical systems
 Lie Groups, Lie algebras and representations
 Differential geometry and gauge theory
 Dynamics of gravitational systems with a large number of particles

Boué, G.
 Fejoz, J. and Florio, A.
 Schiffmann, O.
 Leclercq, R.
 Marco, J.-P.



Minor in Physics

See <https://www.ceremade.dauphine.fr/~M2MATH/minor-in-physics.php>

Scholarship programs

- PSL PhD Track for a combined scholarship M2-PhD
- PSL M2 scholarships
- FSMP/PGSM M2 scholarships

Check deadlines on the web!

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