

# COMPTES RENDUS

# MATHEMATIQUE

Tome 354 (2016) – N° 2 – février



Fenêtre, 1976, détail, Éric Hallberg ©, né en 1933.  
Fenêtre, 1976, detail, Éric Hallberg ©, born in 1933.

## Combinatoire/Combinatorics

- Trimness of closed intervals in Cambrian semilattices  
**Henri Mühle** ..... 113
- Anti-concentration property for random digraphs and invertibility of their adjacency matrices  
**Alexander E. Litvak, Anna Lytova, Konstantin Tikhomirov, Nicole Tomczak-Jaegermann, Pierre Youssef** ..... 121
- Tropical curves in sandpiles  
**Nikita Kalinin, Mikhail Shkolnikov** ..... 125

## Théorie des nombres/Number Theory

- Markoff triples and strong approximation  
**Jean Bourgain, Alexander Gamburd, Peter Sarnak** ..... 131
- Effective arithmetic in finite fields based on Chudnovsky's multiplication algorithm  
**Kévin Atighehchi, Stéphane Ballet, Alexis Bonnecaze, Robert Rolland** ..... 137

## Algèbre/Algebra

- Matrix positivity preservers in fixed dimension  
**Alexander Belton, Dominique Guillot, Apoorva Khare, Mihai Putinar** ..... 143

## Théorie des groupes/Group Theory

- (voir tome 354, série I, 2016, p. 131)

## Analyse mathématique/Mathematical Analysis

- (voir tome 354, série I, 2016, p. 143)

## Théorie du potentiel/Potential Theory

- Optimal geometric estimates for fractional Sobolev capacities  
**Jie Xiao** ..... 149

## Analyse complexe/Complex Analysis

- The branch set of a quasiregular mapping between metric manifolds  
**Chang-Yu Guo, Marshall Williams** ..... 155

Continued on the next page

**Équations aux dérivées partielles/*Partial Differential Equations***

- Uniform temporal convergence of numerical schemes for miscible flow through porous media  
**Kyle S. Talbot** ..... 161
- A local regularity condition involving two velocity components of Serrin-type for the Navier–Stokes equations  
**Hyeong-Ohk Bae, Jörg Wolf** ..... 167
- A simple criterion for transverse linear instability of nonlinear waves  
**Cyril Godey** ..... 175

**Analyse harmonique/*Harmonic Analysis***

- Strong convergence in the weighted setting of operator-valued Fourier series defined by the Marcinkiewicz multipliers  
**Earl Berkson** ..... 181

**Analyse fonctionnelle/*Functional Analysis***

- (voir tome 354, série I, 2016, p. 181)
- Do Minkowski averages get progressively more convex?  
**Matthieu Fradelizi, Mokshay Madiman, Arnaud Marsiglietti, Artem Zvavitch** ..... 185

**Contrôle optimal/*Optimal Control***

- Pointwise second-order necessary conditions for optimal control problems evolved on Riemannian manifolds  
**Qing Cui, Li Deng, Xu Zhang** ..... 191

**Géométrie/*Geometry***

- (voir tome 354, série I, 2016, p. 185)
- The  $\varepsilon$ -positive center set and its applications  
**Shengliang Pan, Yunlong Yang, Pingliang Huang** ..... 195

**Topologie/*Topology***

- (voir tome 354, série I, 2016, p. 155)

**Probabilités/*Probability Theory***

- (voir tome 354, série I, 2016, p. 121)
- On the distribution of the product of correlated normal random variables  
**Saralees Nadarajah, Tibor K. Pogány** ..... 201

**Statistique/*Statistics***

- (voir tome 354, série I, 2016, p. 201)
- Nonparametric recursive density estimation for spatial data  
**Aboubacar Amiri, Sophie Dabo-Niang, Mohamed Yahaya** ..... 205

**Analyse numérique/*Numerical Analysis***

- (voir tome 354, série I, 2016, p. 161)
- High-order accurate Lagrange-remap hydrodynamic schemes on staggered Cartesian grids  
**Gautier Dakin, Hervé Jourdren** ..... 211

**Informatique théorique/*Computer Science***

- (voir tome 354, série I, 2016, p. 137)

**Physique mathématique/*Mathematical Physics***

- (voir tome 354, série I, 2016, p. 125)

**Calcul des variations/*Calculus of Variations***

- (voir tome 354, série I, 2016, p. 149)
- Asymptotic formulas for perturbations in Stokes flow due to the presence of small immiscible liquid particles  
**Mohamed Abdelwahed, Nejmeddine Chorfi, Maatoug Hassine** ..... 219