



JAPANESE JOURNAL OF MATHEMATICS

3rd Series

Official Journal of the Mathematical Society of Japan

Volume 1 • Number 1–2 • 2006

V.I. Arnold

On the matricial version of Fermat–Euler congruences 1

S. Iyanaga

Travaux de Claude Chevalley sur la théorie du corps de classes: Introduction 25

S. Gindikin

Harmonic analysis on symmetric Stein manifolds from the point of view
of complex analysis 87

L. Illusie

Miscellany on traces in ℓ -adic cohomology: a survey 107

A. De Sole, V.G. Kac

Finite vs affine W-algebras 137

B. Roynette, P. Vallois, M. Yor

Some penalisations of the Wiener measure 263

K.-H. Neeb

Towards a Lie theory of locally convex groups 291

V.I. Arnold

Publisher's Erratum: On the matricial version of Fermat–Euler congruences 469

S. Kojima

Foreword to the *Japanese Journal of Mathematics* 471

Y. Morita

Welcome to the Third Series of the *Japanese Journal of Mathematics* 473

Volume 2 • Number 1–2 • 2007

V. Turaev
Lectures on topology of words 1

Special Feature: Award of the 1st Gauss Prize to K. Itô

K. Itô
On the occasion of the ceremonial 2006 Gauss Prize event at Kyoto University 41

M. Fukushima
On the works of Kiyosi Itô and stochastic analysis 45

P. Malliavin, M.E. Mancino, M.C. Recchioni
A non-parametric calibration of the HJM geometry:
an application of Itô calculus to financial statistics 55

H. McKean
Recollections of K. Itô and Kyoto 1957/58 79

J. Pitman, M. Yor
Itô's excursion theory and its applications 83

P. Salminen, P. Vallois, M. Yor
On the excursion theory for linear diffusions 97

Ya.G. Sinai
Congratulations to Professor K. Itô 129

D.W. Stroock
Itô geometry 133

M. Yor
How K. Itô revolutionized the study of stochastic processes 137

Special Feature: The 1st Takagi Lectures

T. Kobayashi
On the establishment of the Takagi Lectures 145

S. Kojima
On the Takagi Lectures 149

K. Miyake
Teiji Takagi, Founder of the Japanese School of Modern Mathematics 151

S. Bloch
Motives associated to graphs 165

F. Cucker, S. Smale
On the mathematics of emergence 197

J.-M. Lasry, P.-L. Lions
Mean field games 229

C. Voisin
Some aspects of the Hodge conjecture 261

* * *

E.B. Vinberg
On some number-theoretic conjectures of V. Arnold 297

B. Krötz
Corner view on the crown domain 303

L. Illusie
Erratum: Miscellany on traces in ℓ -adic cohomology: a survey 313

Volume 3 • Number 1–2 • 2008

Special Feature: The 3rd Takagi Lectures

P. Malliavin
Invariant or quasi-invariant probability measures for infinite dimensional groups
Part I: Non-ergodicity of Euler hydrodynamic 1

P. Malliavin
Invariant or quasi-invariant probability measures for infinite dimensional groups
Part II: Unitarizing measures or Berezinian measures 19

J. Makino
Do-it-yourself computational astronomy
Hardwares, algorithms, softwares, and sciences 49

* * *

A.A. Davydov, G. Ishikawa, S. Izumiya, W.-Z. Sun
Generic singularities of implicit systems of first order differential
equations on the plane 93

D. Lenz, N. Peyrerimhoff, O. Post, I. Veselić
Continuity properties of the integrated density of states on manifolds 121

Special Feature: The Takagi Lectures

D.-V. Voiculescu

Aspects of free analysis

163

O. Viro

From the sixteenth Hilbert problem to tropical geometry

185

* * *

C.F. Dunkl

Reflection groups in analysis and applications

215

M. Pevzner

Covariant quantization: spectral analysis versus deformation theory

247

Volume 4 • Number 1–2 • 2009

Special Feature: The 5th Takagi Lectures

M. Kontsevich

Holonomic \mathcal{D} -modules and positive characteristic

1

J.-P. Bourguignon

Ricci curvature and measures

27

É. Ghys

Right-handed vector fields & the Lorenz attractor

47

N.A. Nekrasov

Instanton partition functions and M-theory

63

Special Feature: The Takagi Lectures

H. Ooguri

Geometry as seen by string theory

95

D. McDuff

Symplectic embeddings and continued fractions: a survey

121

* * *

A. Barakat, A. De Sole, V.G. Kac

Poisson vertex algebras in the theory of Hamiltonian equations

141

Volume 5 • Number 1–2 • 2010

Special Feature: The 7th Takagi Lectures

M. Harris Arithmetic applications of the Langlands program	1
U. Jannsen Weights in arithmetic geometry	73
C. Khare Serre's conjecture and its consequences	103
J. M^cKernan Mori dream spaces	127

Special Feature: The Takagi Lectures

M. Khovanov Categorifications from planar diagrammatics	153
---	------------

* * *

M. Mazur, B.V. Petrenko Generalizations of Arnold's version of Euler's theorem for matrices	183
---	------------

Volume 6 • Number 1–2 • 2011

Special Feature: The Takagi Lectures

A. Connes The BC-system and L -functions	1
S. Brendle Evolution equations in Riemannian geometry	45

* * *

M. Mazur, B.V. Petrenko Addendum to "Generalizations of Arnold's version of Euler's theorem for matrices"	63
---	-----------

Special Feature: The Takagi Lectures

S. Gukov

Quantization via mirror symmetry

65

C. Kenig

Critical non-linear dispersive equations:
global existence, scattering, blow-up and universal profiles

121

Volume 7 • Number 1–2 • 2012

T. Sunada

Lecture on topological crystallography

1

M. Gorelik, V.G. Kac, P. Möseneder Frajria, P. Papi

Denominator identities for finite-dimensional Lie superalgebras
and Howe duality for compact dual pairs

41

Special Feature: The 10th Takagi Lectures

Y. Benoist, J.-F. Quint

Introduction to random walks on homogeneous spaces

135

A. Naor

An introduction to the Ribe program

167

* * *

I.E. Shparlinski

Modular hyperbolas

235