



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 <i>Publisher's Erratum:</i> On the matricial version of Fermat–Euler congruences	469
S. Kojima Foreword to the <i>Japanese Journal of Mathematics</i>	471
Y. Morita Welcome to the Third Series of the <i>Japanese Journal of Mathematics</i>	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. Peyerimhoff, 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

Volume 8 • Number 1–2 • 2013

A. De Sole, V.G. Kac
The variational Poisson cohomology 1

N. Ozawa
About the Connes embedding conjecture
Algebraic approaches 147

Special Feature: The Takagi Lectures

R. Seiringer
Hot topics in cold gases
A mathematical physics perspective 185

* * *

A. De Sole, V.G. Kac
Non-local Poisson structures and applications to the theory of integrable systems 233

Volume 9 • Number 1–2 • 2014

Special Feature: The Takagi Lectures

L. Lafforgue
Noyaux du transfert automorphe de Langlands et formules de Poisson non linéaires 1

H. Oh
Apollonian circle packings: dynamics and number theory 69

A.-M. Aubert, P. Baum, R. Plymen, M. Solleveld
Geometric structure in smooth dual and local Langlands conjecture 99

A. Lubotzky
Ramanujan complexes and high dimensional expanders 137

* * *

Y.Z. Flicker
Harmonic analysis on the Iwahori–Hecke algebra 171

Volume 10 • Number 1–2 • 2015

Special Feature: The Takagi Lectures

G. Tian
Kähler–Einstein metrics on Fano manifolds 1

* * *

T. Ceccherini-Silberstein, F. Scarabotti, F. Tolli
Mackey’s theory of τ -conjugate representations for finite groups 43

E. Bannai, H. Tanaka
Appendix: On some Gelfand pairs and commutative association schemes 97

Special Feature: The Takagi Lectures

C. Manolescu
Floer theory and its topological applications 105

* * *

M. Gorelik, V.G. Kac

Characters of (relatively) integrable modules over affine Lie superalgebra

135

L. Illusie

From Pierre Deligne's secret garden: looking back at some of his letters

237