Ownership and Publication of *Mathematika*

Mathematika was founded in the early 1950s by Harold Davenport and is owned by University College London. Since 2010, the journal has been published on behalf of its owner by the London Mathematical Society (LMS). The LMS celebrated its 150th anniversary in 2015; it is the major British learned Society for mathematics and publishes twelve other journals, five of which are in collaboration with other learned societies. Cambridge University Press prints and distributes *Mathematika* under agreement with the London Mathematical Society.

All articles are available electronically via Cambridge Core.

Aims and Scope

Mathematika publishes both pure and applied mathematical articles of the highest quality. The traditional emphasis has been towards the purer side of mathematics but applied mathematics and articles addressing both aspects are equally welcome.

Submission of Manuscripts

Authors wishing to submit a paper for publication should follow the guidelines available via the webpage www.lms.ac.uk/publications.

Authors will be asked to assign copyright to University College London prior to publication.

No paper should have been published or be under consideration for publication elsewhere. Nor may the paper be submitted elsewhere while it remains under consideration by *Mathematika*.

Offprints

A URL giving free access to the final published article will be provided free of charge. Offprints can be ordered on the form which will accompany the page proofs.

Printed back numbers

Orders for volume 56 (2010) onwards should be sent to Cambridge University Press. Printed copies of volume 55 (2009) and earlier volumes are available from the Department of Mathematics, University College London. Please contact mathematika@math.ucl.ac.uk.

Copying

This journal is registered with the Copyright Clearance Centre, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA that are registered with the CCC may therefore copy material beyond the limits permitted by sections 107 and 108 of US copyright law subject to payment to CCC of the per-copy fee. This consent does not extend to multiple copying for promotional and commercial purposes. Code 0025-5793/2017.

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions. For all other use, permission should be sought from Cambridge or the American branch of Cambridge University Press.

Published by the London Mathematical Society on behalf of University College London.

This journal has been printed on FSC-certified paper and cover board. See www.fsc.org.

Typeset by Sunrise Setting Ltd, Brixham, UK.
Printed in the UK by Bell and Bain Ltd.

https://doi.org/10.1112/S0025579316000383 Published online by Cambridge University Press

Mathematika

VOLUME 63 PART 3 2017

IN MEMORIAM: KLAUS FRIEDRICH ROTH

William W. L. Chen and **Robert C. Vaughan** In memoriam Klaus Friedrich Roth 1925–2015 711–712

D. W. Masser Abcological anecdotes 713–714

Roger Baker Fractional parts of polynomials over the primes 715–733

József Beck Dimension-free uniformity with applications, I 734–761

Victor Beresnevich, Lawrence Lee, Robert C. Vaughan and **Sanju Velani** Diophantine approximation on manifolds and lower bounds for Hausdorff dimension 762–779

V. Blomer and **J. Brüdern** Rational points on the inner product cone via the hyperbola method 780–796

Julia Brandes and **Trevor D. Wooley** Vinogradov systems with a slice off 797–817

T. D. Browning Many cubic surfaces contain rational points 818–839

Yann Bugeaud and **Jan-Hendrik Evertse** S-parts of terms of integer linear recurrence sequences 840–851

Harold G. Diamond and **Wen-Bin Zhang** Prime number theorem equivalences and non-equivalences 852–862

Josef Dick, Aicke Hinrichs, Lev Markhasin and **Friedrich Pillichshammer** Discrepancy of second order digital sequences in function spaces with dominating mixed smoothness 863–894

Sary Drappeau, Andrew Granville and **Xuancheng Shao** Smooth-supported multiplicative functions in arithmetic progressions beyond the $x^{1/2}$-barrier 895–918

P. D. T. A. Elliott and **Jonathan Kish** Harmonic analysis on the positive rationals. Determination of the group generated by the ratios $(an+b)/(An+B)$ 919–943

Ben Green and **Terence Tao** New bounds for Szemerédi's theorem, III: a polylogarithmic bound for $r_4(N)$ 944–1040

D. R. Heath-Brown Iteration of quadratic polynomials over finite fields 1041–1059

Claude Levesque and **Michel Waldschmidt** Families of Thue equations associated with a rank one subgroup of the unit group of a number field 1060–1080

Hugh L. Montgomery and **Gérald Tenenbaum** On multiplicative compositions of integers 1081–1090

Aleksandar Nikolov Tighter bounds for the discrepancy of boxes and polytopes 1091–1113

Damien Roy and **Michel Waldschmidt** Parametric geometry of numbers in function fields 1114–1135

Wolfgang M. Schmidt and **Leonhard Summerer** Simultaneous approximation to two reals: bounds for the second successive minimum 1136–1151

M. M. Skriganov Point distributions in compact metric spaces 1152–1171

Cambridge Core
For further information about this journal please go to the journal web site at:
cambridge.org/mtk

CAMBRIDGE UNIVERSITY PRESS

https://doi.org/10.1112/S0025579316000553 Published online by Cambridge University Press