

*This journal was typeset by L<sup>A</sup>T<sub>E</sub>X, with style files 'nmj.sty'  
written by Dr. Masashi Kubo.*

T<sub>E</sub>X is a trademark of American Mathematical Society.

Correspondence concerning subscription, and back issues of  
the journal should be addressed to

KINOKUNIYA COMPANY LTD.

17-7 Shinjuku 3-chome, Shinjuku-ku

Tokyo 163-8636 JAPAN

The annual subscription price for 2002 is about \$249.00

Published by

KINOKUNIYA COMPANY LTD.

Tokyo, Japan

Nagoya Mathematical Journal is the official journal of the Graduate School of Mathematics, Nagoya University, designed solely for the publication of research papers. However, invited papers and other original papers in mathematics from all over the world are also regularly published in Nagoya Mathematical Journal. Currently, 4 volumes are published each year.

All manuscripts should be typewritten in English, French, or German. Papers should be prepared using  $\text{T}_{\text{E}}\text{X}$  if possible, but only the printed hard copy should be submitted (2 copies). Authors submitting old-fashioned typescript are requested to clearly distinguish special symbols and letters such as bold-face, script, German and Greek letters. The editors may request the original  $\text{T}_{\text{E}}\text{X}$  files of papers accepted for publication. The journal's  $\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$  style file and its manual can be obtained from the following URL.

<http://www.math.nagoya-u.ac.jp/nmj/index.html>

Papers should include

- (a) a short abstract of the contents,
- (b) classification numbers at the foot of page 1 according to the 2000 Mathematics Subject Classification, to be found in

<http://www.ams.org/>,

- (c) the author's coordinates, including e-mail address and Fax numbers,
- (d) for papers with long titles, the author's choice of running head (not longer than 50 characters).

As soon as we receive a manuscript, a receipt will be sent to the author. The receipt, however, does not mean anything regarding the acceptability of the paper for publication. If the editorial committee has decided to accept a paper, the author will receive a notice containing the number of the volume in which the paper will appear.

Authors submitting a joint paper must provide instructions as to which author is responsible for proof-reading (only one set of proofs will be provided). Each author, as well as each co-author will have 50 reprints.

The manuscript and general correspondence should be addressed to: Managing editor, Nagoya Mathematical Journal, Graduate School of Mathematics, Nagoya University, Chikusa-ku, Nagoya, 464-8602, Japan.

## CONTENTS

---

<b>Akita, T.:</b> Nilpotency and triviality of mod $p$ Morita-Mumford classes of mapping class groups of surfaces .....	1
<b>Chen, C.-P., Fan, D. and Sato, S.:</b> deLeeuw's theorem on Littlewood-Paley functions .....	23
<b>Costa, L. and Miro-<math>\acute{R}</math>oig, R.M.:</b> Rationality of moduli spaces of vector bundles on rational surfaces .....	43
<b>Lau, Y.-K.:</b> On a generalized divisor problem I .....	71
<b>Joung, H.:</b> Asymptotic expansions of recursion coefficients of orthogonal polynomials with truncated exponential weights .....	79
<b>Rao, M. and Vondraček, Z.:</b> Nonlinear potentials in function spaces .....	91
<b>Lescot, P.:</b> Families of solvable Frobenius subgroups in finite groups	117
<b>Ancona, A.:</b> Some results and examples about the behavior of harmonic functions and Green's functions with respect to second order elliptic operators .....	123
<b>Momose, F. and Shimura, M.:</b> Lifting of supersingular points on $X_0(p^r)$ and lower bound of ramification index .....	159
<b>Brivio, S. and Verra, A.:</b> On the theta divisor of $SU(r, 1)$ ..	179