

ISSN 0386-5991

KODAI MATHEMATICAL JOURNAL

EDITED

BY

**DEPARTMENT OF MATHEMATICS
TOKYO INSTITUTE OF TECHNOLOGY**

Vol. 15, No. 1, March 1992

**DEPARTMENT OF MATHEMATICS
TOKYO INSTITUTE OF TECHNOLOGY**

Oh-okayama, Meguro-ku, Tokyo

KODAI MATHEMATICAL JOURNAL

EDITORS

TAKAO FUJITA	DAISUKE FUJIWARA
TAKUO FUKUDA	ATSUSHI INOUE
SHIGEYUKI MORITA	TOSHIHIKO NISHIMOTO
JUNJIRO NOGUCHI	MUTSUO OKA
SEIYA SASAO	NOBUYUKI SUITA
SHUKICHI TANNO	

COOPERATORS

AKITO FUTAKI	TAKASHI HARASE
SHIHOKO ISHII	KAZUTOMO KAWAMURA
TAKEHIKO MORITA	KAZUO MASUDA
SHIN OZAWA	KEN'ICHI OHSHIKA
HIROSHIGE SHIGA	

This journal will appear three times yearly and publish papers in pure and applied mathematics.

Preparation of the Manuscript

1. The manuscript should be typewritten, using double or triple line-spacing with generous margins.
2. All illustrations should be drawn on white paper, using Indian ink, and should be drawn to about twice the required size. Any lettering should be large and bold enough to be legible after the diagram has been reduced for printing.
3. Manuscripts (two copies) should be sent to the Editors,

Kodai Mathematical Journal,
Department of Mathematics,
Tokyo Institute of Technology,
Oh-okayama, Meguro-ku, Tokyo 152,
Japan.

Proofs and Reprints

Authors are asked to make clear the address to which correspondence and proofs for correction should be sent. One hundred free reprints of each paper will be provided.

Publishing and Subscription Office

Kinokuniya Company Ltd.,
17-7 Shinjuku 3-chome, Shinjuku-ku,
Tokyo 160-91 Japan.

KODAI MATHEMATICAL JOURNAL

Vol. 15, 1992

EDITORS

TAKAO FUJITA	DAISUKE FUJIWARA
TAKUO FUKUDA	ATSUSHI INOUE
KAZUYA KATO	SHIGEYUKI MORITA
TOSHIHIKO NISHIMOTO	JUNJIRO NOGUCHI
MUTSUO OKA	SEIYA SASAO
NOBUYUKI SUITA	SHUKICHI TANNO

COOPERATORS

AKITO FUTAKI	TAKASHI HARASE
SHIHOKO ISHII	KAZUTOMO KAWAMURA
KAZUO MASUDA	SHIN-ICHIRO MIZUMOTO
TAKEHIKO MORITA	KEN'ICHI OHSHIKA
SHIN OZAWA	HIROSHIGE SHIGA
MITSUHIRO SHISHIKURA	HAJIME TSUJI

DEPARTMENT OF MATHEMATICS
TOKYO INSTITUTE OF TECHNOLOGY

Oh-okayama, Meguro-ku, Tokyo

KODAI MATHEMATICAL JOURNAL

The periodical, Kodai Mathematical Journal, is devoted to mathematics, pure and applied, and is published three times annually.

Editorial correspondence should be addressed to :

Department of Mathematics,
Tokyo Institute of Technology,
Oh-okayama, Meguro-ku,
Tokyo, Japan.

TABLE OF CONTENTS

AIYAMA, REIKO AND QING-MING CHENG, Complete space-like hypersurfaces with constant mean curvature in a Lorentz space form of dimension 4	375
ANDO, YUTAKA, Correction to: "Cohomology of a Hopf algebra over \mathbf{Z}_2 "	310
ATSUYAMA, KENJI, Projective spaces in a wider sense, I	324
BANK, STEVEN B., On the frequency of complex zeros of solutions of certain differential equations	165
CHEN, ZONG-XUAN AND SHI-AN GAO, On the complex oscillation of non-homogeneous linear differential equations with meromorphic coefficients	65
CHENG, QING-MING, cf. AIYAMA, REIKO	
CHOI, SOON MEEN, 3-dimensional space-like submanifolds with parallel mean curvature vector of an indefinite space form	279
FUJII, MICHIIHIKO, On totally geodesic boundaries of hyperbolic 3-manifolds	244
GAO, SHI-AN, cf. CHEN, ZONG-XUAN	
HIRABA, SEIJI, Existence and smoothness of transition density for jump-type Markov processes; applications of Malliavin calculus	28
ICHIKAWA, FUMIO, Thom's conjecture on singularities of gradient vector fields	134
IZYDOREK, MAREK AND SŁAWOMIR RYBICKI, On the number of branches of bifurcation points	122
JAMBU, MICHEL, Analysis and topology of hyperplane complements: The generalized Witt formula	11
JENKINS, JAMES A., A criterion associated with the Schlicht bloch constant	79
KIM, TAE-HWA, Nonlinear ergodic theorems of almost-orbits of non-Lipschitzian semigroups	296
KISELMAN, CHRISTER O., Regularity classes for operations in convexity theory	354
KIUCHI, HIROBUMI AND WATARU TAKAHASHI, Asymptotic behavior of almost-orbits of nonexpansive semigroups without convexity	185
KOMATU, YŪSAKU, On distortion properties of analytic operators	1
LI, BAO QIN, cf. YANG, CHUNG CHUN	
OSAWA, TATSUZO, The Hadamard variational formula for the grand state value of $-\Delta u = \lambda u ^{p-1}u$	258
OSAWA, TATSUZO AND SHIN OZAWA, Nonlinear eigenvalue problem and singular variation of domains	313
OZAWA, SHIN, cf. OSAWA, TATSUZO	
OZAWA, SHIN AND SUSUMU ROPPOGI, Singular variation of domain and spectra of the Laplacian with small Robin conditional boundary II	403
PAPAGEORGIOU, NIKOLAOS S., On the set of solutions of a class of non-linear evolution inclusions	387

ROPPONGI, SUSUMU, cf. OZAWA, SHIN	
RYBICKI, SŁAWOMIR, cf. IZYDOREK, MAREK	
SHIMIZU, SATORU, Holomorphic equivalence problem for a certain class of unbounded Reinhardt domains in C^2 , II	430
TAKAHASHI, WATARU, cf. KIUCHI, HIROBUMI	
TAKEI, YOSHINORI, On algebraicity of vector valued Siegel modular forms..	445
TATEISHI, HIROSHI, Perron-Frobenius theorem for multi-valued mappings..	155
WATANABE, TOSHIRO, On Yamazato's property of unimodal one-sided Lévy processes	50
WATANABE, TOSHIRO, Sufficient conditions for unimodality of non-symmetric Lévy processes	82
XIA, CHANGYU, On the minimal submanifolds in $CP^m(c)$ and $S^N(1)$	141
YAMASHITA, SHINJI, The derivative of a holomorphic function and estimates of the Poincaré density	102
YANG, CHUANG-CHUN, cf. ZHENG, JIAN-HUA	
YANG, CHUNG CHUN AND BAO QIN LI, On the complete meromorphic functions	341
YE, SHOU-ZHEN, Uniqueness of meromorphic functions that share three values.....	236
YONG, JIONGMIN, Existence theory of optimal controls for distributed parameter systems.....	193
ZHAO, RUHAN, The characteristics of BMOA on Riemann surfaces	221
ZHENG, JIAN-HUA AND CHUANG-CHUN YANG, Permutability of entire functions	230