NOTICE

ANNOUNCING A NEW JOURNAL

COMPUTERS & STRUCTURES

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The object of this new journal is to provide a medium for the rapid and current communication of information concerning the applications of computers, (digital, analog, and hybrid) and computer programs to the solution of scientific and engineering problems related to hydrospace, aerospace and terrestrial structures.

COMPUTERS & STRUCTURES will be of interest and use to the scientist/engineer researcher and practitioner in the academic, governmental, and industrial communities in such relevant technical areas as structural mechanics, fluid mechanics and oceanography as utilized to establish structural loading, soil mechanics and foundation engineering, geology and geophysics, and materials science and engineering, including fatigue, creep, relaxation, fracture, stress corrosion, etc. Particular attention will be devoted to the practical engineering aspects of structural analysis, design and optimization.

COMPUTERS & STRUCTURES will publish authoritative papers on theoretical and experimental research and advanced applications of computer programs. When appropriate, it will also feature:

Tutorial papers reviewing a field or fields of computers and/or structures.

Descriptive type of papers showing what computers are and how they could be used to assist the scientist/engineer in designing structures.

Computer programs described in sufficient detail so as to be usable with minimum effort.

Contributions concerning computer-aided design of structures and structural elements.

Reviews of books and papers published elsewhere, meeting schedules, and other such information.

A section on Education Programs. Relatively short programs will be published to demonstrate or augment the material normally found in textbooks or other instructional material. Two types of programs will be emphasized: the first where the program itself is to be "read" by students and engineers not too well informed about computers in order to understand a particular concept or algorithm, or, more significantly, to understand the conversion of an informally stated procedure into a complete algorithm. The second is a program which may be used as a "black box" by students and engineers to produce results which either contribute to the students' understanding of a particular concept or trend, or reduce the amount of computation needed on his part to achieve a particular objective.

Languages of papers

The language of the Journal is primarily English, but manuscripts submitted in other languages are considered at the discretion of the Editor.

Abstracts

A summary of each paper is included in English.

Frequency

Published quarterly, with four issues comprising one volume with Subject/Author index included with last issue in each volume.

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AN IMPROVED METHOD FOR NUMERICAL CONFORMAL MAPPING

USERS GUIDE AND CODE

JOHN K. HAYES, DAVID K. KAHANER, AND RICHARD G. KELLNER

Conformal Mapping Package - Users Guide

The Conformal Mapping Package (CMP) consists of two FORTRAN IV subroutines, CONFORM and FN, callable by the user, and six other private subroutines needed during the calculation with which the user does not interface. If D is a simply connected two-dimensional region with boundary L of finite length, the user may elect to map D conformally onto the unit circle with some arbitrary interior point being mapped onto the origin, or he may map the exterior of D onto the exterior of the unit circle, with the point at infinity remaining fixed. It is assumed that the user has a sequence of points in D whose images in the unit circle are required. (In the case of the exterior problem mentioned above, the points will obviously be exterior to D.) The CMP provides approximations to these image points by appropriate calls to CONFORM and then to FN.

Input to the CMP is by data cards and in some cases user-supplied subroutines which describe the boundary curve L. Each separate mapping problem requires a set of data cards. The end of each set is delimited by one blank card.

For each boundary curve L, the user must decide on a partition of L into one or more sections. The data card set for this problem then consists of one card for each section. Within a section two further decisions are required;

1. Is this section of L well approximated by a line segment joining its endpoints? Should it be approximated by a circular arc passing through the endpoints and some intermediate point? Is it necessary