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**Monte Carlo Methods for the
Solution of Heat Transfer Problems,
Including Hybrid Computer
Techniques for Monte Carlo**

MASTER

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Compiled by

Marilyn Treiman

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MONTE CARLO METHODS FOR THE SOLUTION OF HEAT TRANSFER PROBLEMS,
INCLUDING HYBRID COMPUTER TECHNIQUES FOR MONTE CARLO

INTRODUCTION

This bibliography covers material, described in the title, which has been published since 1960. This starting date for the search was suggested by the knowledge that applications of Monte Carlo methods (especially in conjunction with hybrid computers) to heat transfer and conduction problems have been made only in the past half-decade.

The Monte Carlo method, when implemented on a hybrid computer system, is a particularly powerful tool because the random walk integration can be performed continuously on the analog portion of the system, while the detection and tallying of boundary crossings can be accomplished efficiently on the digital portion.

The application of the Monte Carlo method to heat transfer problems is relatively new, although it has been applied successfully to other types of diffusion problems for the past twenty years or so. The interest in this new area of investigation is increasing rapidly, and may well indicate a forthcoming extension of the method to the solution of more general classes of boundary value problems.

Some particularly significant references were found in the literature, specifically those by Little and Handler, which refer to the subject of solution of heat transfer/conduction problems using two different types of hybrid computer systems.

This bibliography includes books, reports, and journal articles on Monte Carlo methods for the solution of heat transfer problems. In addition, there are references to hybrid computer techniques for Monte Carlo. All references are arranged alphabetically by first author.

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