

## SYMPOSIUM ON EROSION AND CAVITATION

## INTRODUCTION

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This symposium is sponsored by the Administrative Committee on Simulated Service Testing. One of the committee's main functions is to seek out topics where service performance is proving difficult to simulate by materials tests of the conventional type. In such areas the committee sponsors symposia to present recent findings and to encourage discussion, with the objective of pointing toward testing and evaluation on a more meaningful basis.

Erosion and cavitation effects constitute a particularly difficult area in materials performance. Like wear phenomena, it is not possible to provide the designer with numerically expressed "properties" which can be fed into formulas for proportioning parts, as one can do for static, fatigue, and creep loadings.

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The many facets of erosion and cavitation in the engineering field will be evident from the individual papers. Applications in hydraulic and steam turbines, diesel engines, aircraft structures, missiles, and so on are described.

Some of the papers are of a practical nature, seeking correlations; others are of a more scientific aspect and include theoretical considerations. It is fitting that a symposium should include such a wide variation of subject treatment.

Some intriguing items will be found in the presentations. Some examples are: the effects of meteorite impacts; the phenomenon of a not-too-well understood flash of light occurring under certain impact conditions; and cratering of a type evident on the surface of the moon.

The symposium is an interesting one, and it is hoped that it will contribute toward a better understanding and will lead toward more rational testing procedures in this important field.