Nondestructive inspection of longitudinal stiffener butt welds in commercial vessels
Directory of Published Proceedings
Report on Ship Vibration Symposium ’78
Technical News
Environmental wave data for determining hull structural loadings
Gross panel strength under combined loading
A Guide for the Analysis of Ship Structures
Maintenance of Marine Structures
Analysis and Assessment of Major Uncertainties Associated with Ship Hull Ultimate Failure
Fracture Control for Fixed Offshore Structures
Hull Structural Concepts for Improved Producibility
Design procedure for minimizing propeller-induced vibration in hull structural elements
Recommendations for the Interagency Ship Structure Committee's Fiscal 1987 Research Program
Journal of Congress Catalogs
Further survey of in-service performance of structural details
Transactions - The Society of Naval Architects and Marine Engineers
The Subject Index to Periodicals
Ship Structure Committee Publications
Determination of Strain Rates in Ship Hull Structures
Monthly Catalog of United States Government Publications
A study of extreme waves and their effects on ship structure
Industrial Arts Index
Report - David W. Taylor Model Basin
Monthly Catalog of United States Government Publications
Ship Design and Construction
Naval Engineers Journal
A correlation study of SL-7 containership loads and motions
Bulletin
A literature survey on the collision and grounding protection of ships
Fourth Progress Report of Project SR-137 to the Ship Structure Committee on Studies of the Strain Distribution in Wide Plates During Brittle Fracture Propagation
Analysis and Assessment of Major Uncertainties Associated with Ship Hull Ultimate Failure
Results of the first five "data years" of extreme stress scratch-gauge data collected aboard Sea-Land's SL-7's
Ship Structure Committee Publications

Includes entries for maps and atlases.
A summary is given of the trade routes of U.S. ships, followed by suggestions for new projects and extension and improvement of current projects to meet the need for additional data on sea conditions encountered by U.S. ships. It is concluded that the greatest benefit can be obtained by making a direct effort to obtain wave spectra for the ocean areas on important sea routes that are known to experience severe sea conditions, probably by the use of moored buoys, and by further verification and improvement of wave hindcast techniques for eventual application to obtaining wave spectra for design. At the same time, steps should be initiated that may lead to the availability of wave data in the future, such as seeking oil company data.

The existing methods of predicting the behavior and ultimate strength of ship gross panels were evaluated, examined and in some instances, further developed. The assumptions, approximations, and deficiencies in each method were identified with the objective of determining the range of validity of each. The methods were classified in five broad categories with respect to their theoretical bases. Comparisons and correlations were conducted between the results of the different methods when applied to identical gross panels under biaxial edge compression and lateral pressure. Based on the identification of the assumptions and approximations in each method, and on the conducted comparisons and correlations, some expressions and procedures were selected, discussed, and extended. Lack of adequate procedures in certain areas were pointed out particularly when the collapse loads and mechanisms involve coupling between several modes of failure, and a biaxial loading condition exists in combination with lateral pressure. In some instances no clear measure of the relative reliability of the different procedures can be ascertained and a firm evidence of the 'exact' solution is not available. A two-phase test program was recommended with immediate objectives and final goals outlined. An extensive bibliography is appended to this report. (Author).
A study has been made of the butt welds which join together the sections of longitudinal stiffeners in longitudinal framed ships. From a review of Coast Guard casualty reports and a survey of major shipbuilders, it was determined that there is very little evidence of structural failure in service and, therefore, no need at this time to expand nondestructive inspection to include this type of weld joint. (Author).

A correlation study is carried out (for the SL-7 container ship) by means of comparison of results for structural loads and motions in waves obtained from model tests and computer calculations. The different aspects that could affect computer predictions are examined via further computations and analyses in order to determine their influence on the output data. Similarly an examination of the possible effects that influence the model test data are also examined. The main objective of this study is to determine the capabilities of both test methods for prediction purposes.

The different uncertainties associated with ship longitudinal strength and external loading are reviewed when considering probabilistic analysis and design. The uncertainties are represented in the form of coefficients of variation, where that information can then be used in evaluation of the safety index and/or related quantities used for determination of structural failure probability. The emphasis is directed toward longitudinal strength, with the failure mode due to ultimate compression failure as the major consideration. Numerical values for coefficients of variation are found by data analysis and computation for different types of loads (wave-induced, springing, slamming, etc.) together with suggested means of determining the uncertainty for the combined loads acting on a ship. Methods for determining ship strength uncertainties are examined, with application to modern commercial ships illustrating the important prospective failure mechanisms and the limits of present mathematical models in predicting such failures. Proposed procedures for determining uncertainties for such ship structures by use of computationally efficient numerical computer programs are described. Keywords: Probabilistic design; Ship longitudinal strength; Load variability; and Hull girder failure.
List of members in vols. 1-24, 38-54, 57.

Copyright code: d66c2a5d63f0a8365a39e1c8ae3550a