

VOMAS: FATIGUE ANALYSIS OF HIGH-SPEED ALUMINUM CRAFTS

PROJECT AIM

Aim of the VOMAS project is to develop a modern tool that predicts hydrodynamic loading and the expected fatigue life of (critical) structural details of high speed aluminum crafts. The sea keeping programs PANSHIP and/or FASTSHIP, developed at TU Delft, seem to be a good start to model the hydrodynamic loading. Other possibilities will be studied. The structural response will be obtained using FEM. Particular attention will be paid to coupling of the hydrodynamic and structural models. Global and local hydro-elasticity will be investigated. FEM results will be related to a fatigue life calculation method. Full scale measurements and model tests will be used for validation purposes.

PROGRESS

- ♦ Literature research
- ♦ Preparation of full-scale measurements
- ♦ Interface for hydro-software and FEM

DISSERTATIONS

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SCIENTIFIC PUBLICATIONS

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PROJECT LEADERS

P van Terwisga (Damen Shipyards)
RHM Huijsmans (TU Delft)

RESEARCH THEME

Mathematical and computational methods for fluid flow analysis

PARTICIPANTS

JH den Besten

COOPERATIONS

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FUNDED

SenterNovem
Damen Shipyards
MARIN
Bureau Veritas
Lloyds Register
TNO

1st - 2nd 47% 3rd 53%

START OF THE PROJECT

2008

INFORMATION

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