

Maybe the easiest and most reliable way to calculate wave induced ship motions and loads

Product Description

"SEAWAY for Windows" is the Windows upgrade of the renewed SEAWAY program developed by J.M.J. Journée at the Delft University of Technology. SEAWAY is a strip theory program to calculate wave-induced loads on and motions of mono-hulls and barges in deep to very shallow water. When not accounting for interaction effects between the hulls, also catamarans can be analyzed. Work of very acknowledged hydromechanic scientists (like Ursell, Tasai, Frank, Keil, Newman, Faltinsen, Ikeda, etc.) has been used, when developing this code.

Applications

SEAWAY for Windows is used to calculate:

- Hydrostatics and still water shear forces and bending moments.
- Resonance periods in all modes of motions.
- Wave forces and moments.
- Absolute and relative ship motions, velocities and accelerations in waves.
- Mean added resistance in waves.
- Shear forces, bending and torsion moments in waves.
- Short-term response statistics, such as energy distributions, significant amplitudes and average periods.
- Probability and number per hour of exceeding threshold values, used to study the effects of green water, propeller racing or slamming.

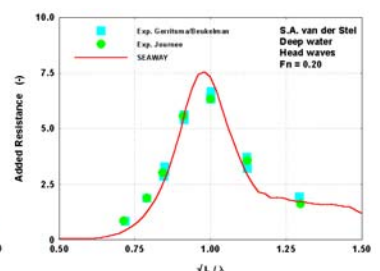
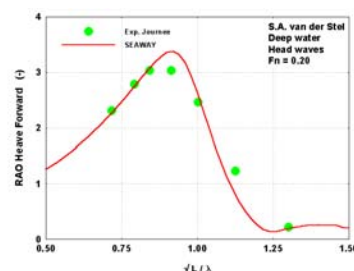
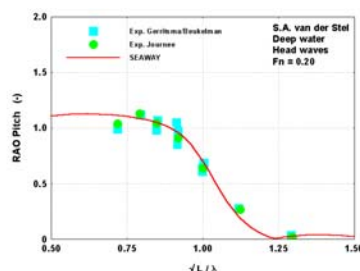
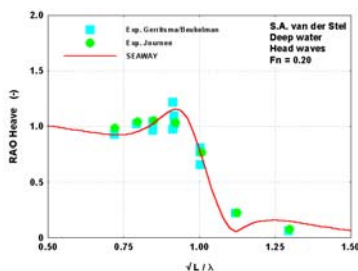
User-Friendliness

SEAWAY for Windows is a tool for everybody. A lot of attention has been paid to user-friendliness. Examples of this are:

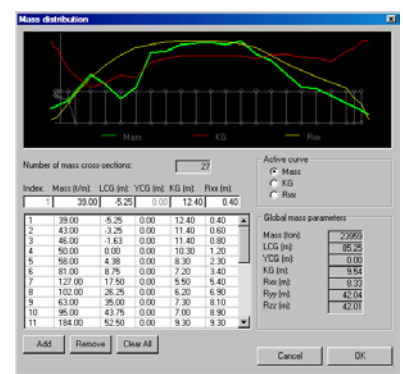
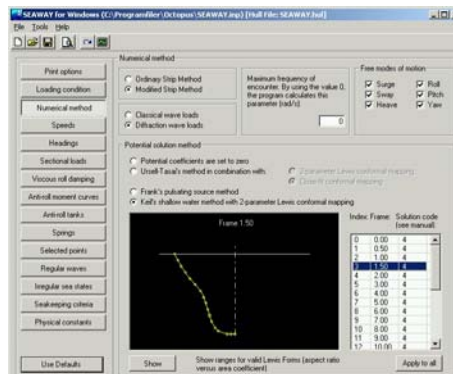
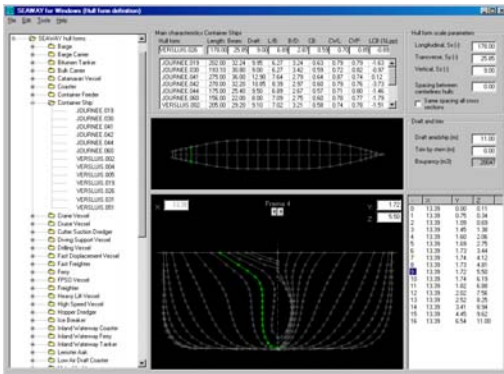
- A database with over 120 scalable hull form files.
- Direct check of hydrostatics during hull form and loading condition definitions.
- Large variety of effects can be modelled, such as:
 - Springs.
 - Different viscous roll damping options.
 - Free surface anti-rolling tanks.
 - Arbitrary roll moment curves.
- Logical sub-division of input parameters with defaults per data set.
- Refreshment of geometry-dependent input with one click on a button.
- Robust input data checks, warnings and error handling.
- Add-ons such as the import of loading conditions from third party software (loading computers, CAD-systems, stability packages).

Validation

SEAWAY has extensively been verified and validated using other computer codes and experimental data. The program has been in use for many years by many different companies and universities. The result of all this is one of the best and most robust commercially available seakeeping packages.



SEAWAY for WINDOWS



The Hull Form Definition screen allows fast and robust modelling of the geometry input by linear transformation of the included and extendable hull form database. Hull form conversion routines are also available.

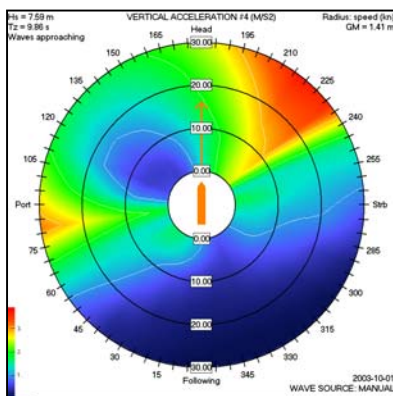
Graphical checks of input data, the option to update geometry-dependent input using one click on the button greatly improve the flexibility of Seaway as a design tool.

The mass distribution and global mass properties can be specified, changed and manipulated. It is also possible to import mass distributions from other sources.

References

1. Theoretical Manual of "SEAWAY for Windows", Johan Journée and Leon Adegeest, Delft University of Technology, Report 1370, September 2003, see: <http://www.shipmotions.nl/>.
2. Verification and Validation of Shipmotions Program SEAWAY, J.M.J. Journée, Delft University of Technology, Report 1216a, February 2001, see: <http://www.shipmotions.nl/>.

Also Available



SEAWAY for Windows is a module in Amarcon's Octopus software package.

Octopus ship performance analyses can be carried out in the office or onboard. Within Octopus, modules are available for:

- Route- and location-specific performance analysis in waves.
- Calculation of operational limits under varying conditions.
- Polar Diagrams.
- Extreme and fatigue analysis.
- Standard included are the IACS Unified Wave Scatterdiagram and annually averaged Global Wave Statistics.
- Import and post-processing of third party wave information (hindcast, forecasts, measurements or observations).
- Export to the onboard Octopus monitoring and Decision Support System.

The different modules are seamlessly integrated to provide the customer-specific functionality. So there is always a suitable solution for your particular situation.

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