

SALVIA-OCT.-web

SALVIA-OCT.-web is a program developed in the OCTARVIA Project and can assess the performance of a ship in actual seas based on onboard monitoring and analyze the monitoring data objectively eliminating any arbitrariness.



DATA VALIDATION

- (A) using mean value and standard deviation
- (B) using mean value

CALCULATION ITEMS

- (1) Preliminary data filtering
 - (1A) using mean value and standard deviation
 - (1B) using mean value
- (2) Data correction on sea state
- (3) Ship performance Assessment
 - (3A) based on Resistance Criteria Method
 - (3B) based on Estimated Performance Curve
- (4) Assessment of fouling and aging

Data Input

Calculation

Save

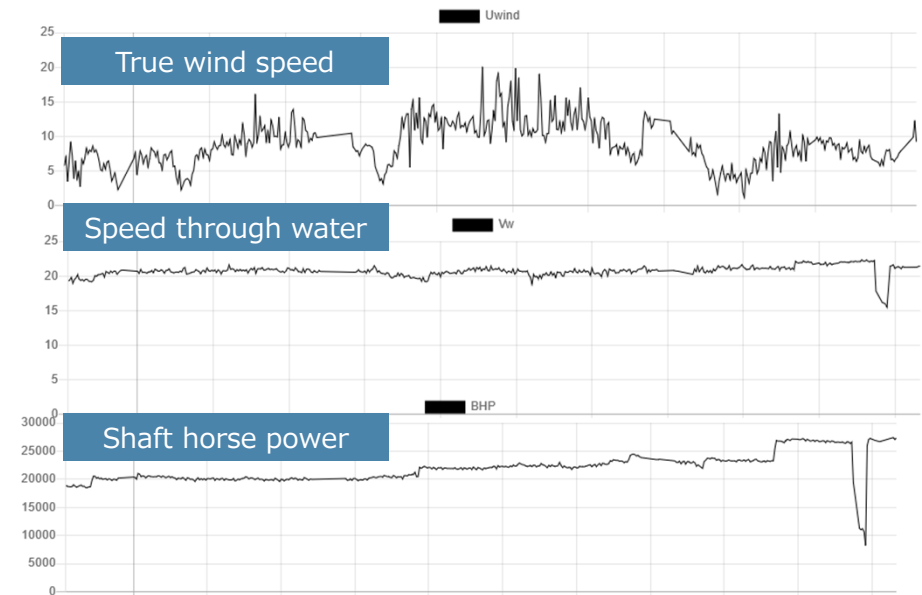
Load

Data Import

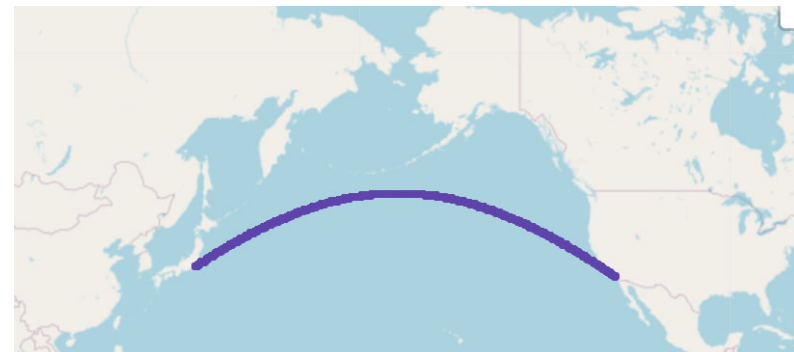
Data Export

Contents of calculation

- Data filtering
- Correction for the effects of winds and waves
- Ship performance assessment
- Assessment of fouling and aging
- Data validation



- ✓ Onboard monitoring data in CSV format can be imported.
- ✓ Time history of imported data are illustrated.



Ship position is indicated.

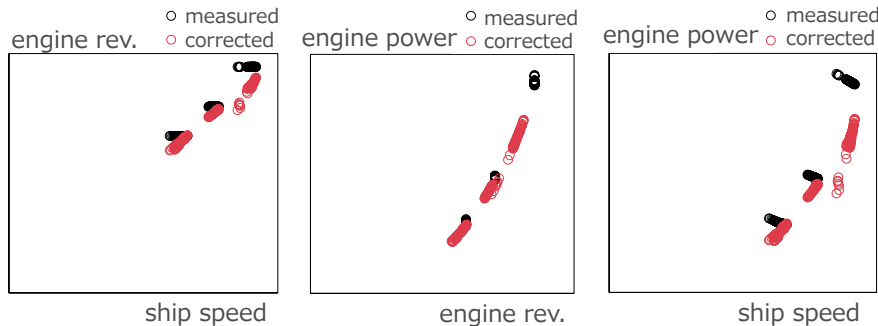
SALVIA-OCT.-web

Data filtering

Extracting data between minimum and maximum that user specifies.

Correction for the effects of winds and waves

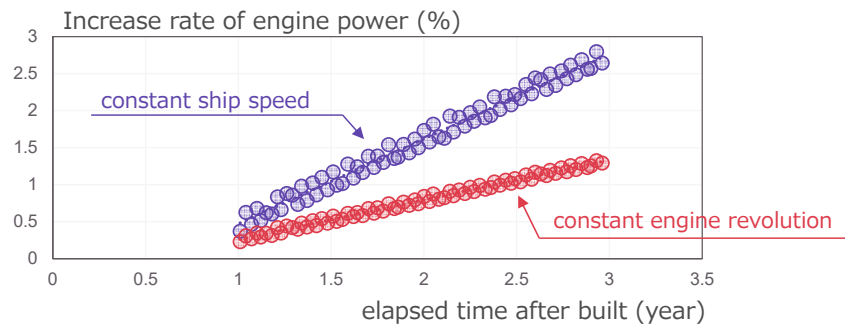
Engine revolution and power are corrected into the value at a specified condition. (e. g. calm sea)



Example of the correction to calm condition (bulker)

Assessment of fouling and aging

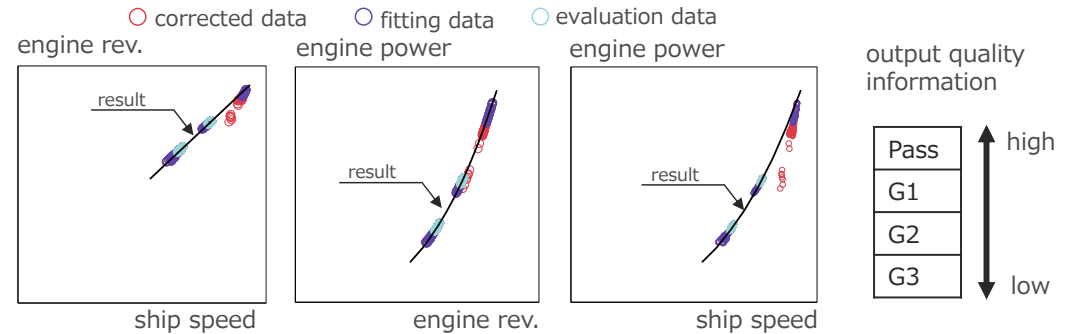
The effects of fouling and aging on ship performance are assessed using long-term onboard monitoring data.



Assessment example of fouling and aging (Container ship)

Ship performance assessment

Using the corrected data, ship performance is assessed based on Resistance Criteria Method (RCM) with quality information.

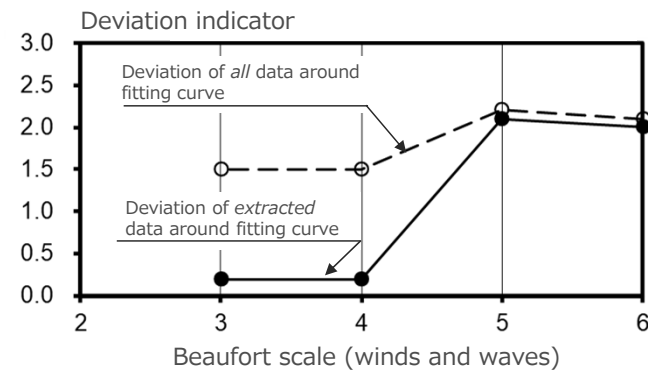


Assessment example of ship performance in calm condition (bulker, quality information: *Pass*)

fitting data: resistance increase rate from that in calm seas is less than 50% and used for numerical approximation. The approximation provides 'fitting curve'.
evaluation data: the resistance increase rate is less than 50% and used for validating the fitting curve.

Data validation

For checking numerical approximation to the extracted data, responses of data deviation around the fitting curve to Beaufort scale is assessed.

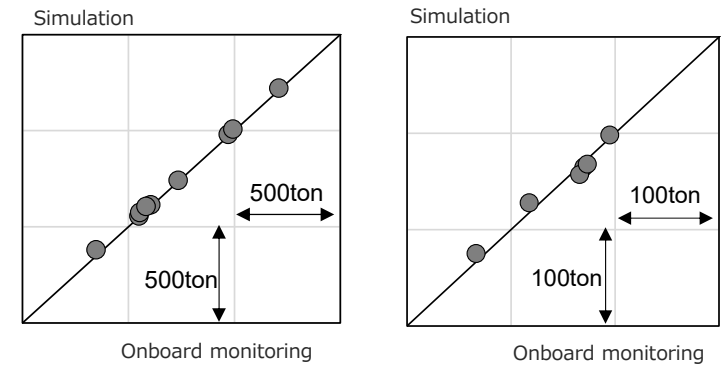
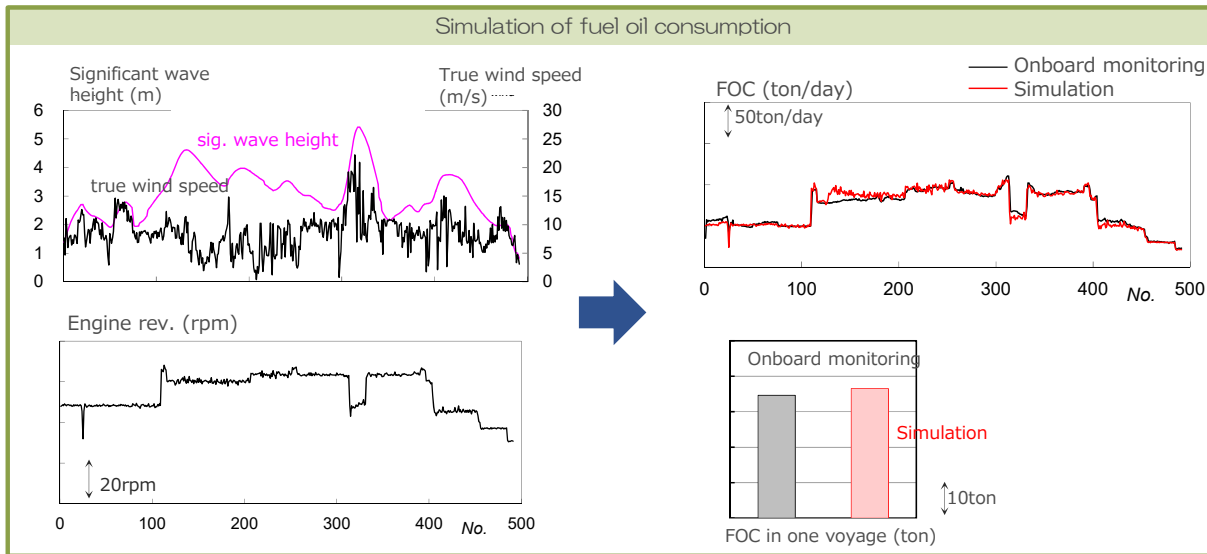


Data validation example (Container ship)

SALVIA-OCT.-web

The effectiveness of Resistance Criteria Method (RCM) is validated by comparing between onboard monitoring data and performance simulation based on ship performance derived from RCM.

Ship	Length	Breadth	Design draft
Container ship	270.0m	35.0m	12.0m
Tanker	185.0m	32.2m	13.0m



FOC in one voyage
(left: container ship, right: tanker)

The simulation agrees with monitoring data.

The effectiveness of RCM is validated.