

Committee on Trials and Monitoring

Discussion of the Report and Recommendations
by Michael Schmiechen,
retired from VWS, the Berlin Model Basin

Remarks and Questions concerning the

Evaluation of speed trials in particular:

Sect. 4. Speed/Power Trials and Analysis

Sect. 9. SC Contributions to ISO Standard
for Speed Trials' Evaluation

Schmiechen, VWS Berlin

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Current velocity

The discussor only mentions the problem of determining the current velocity, which has been discussed at great length in the report without mentioning the rational procedure proposed by the discussor.

The propeller performance in the behind condition, i. e. in the full scale wake (!), and the current velocity can be identified simultaneously by solving one set of linear equations.

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Rational method

Advantages of the rational procedure are a **minimum number of simple conventions** and the **consistent application of systems identification methods requiring no reference to model test results and any other prior information, as it should be.**

Of course **the rational method proposed**, being still in its infancy, **needs the joint effort and agreement of all experts** before it can be established as a reference and a standard.

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Ill-conditioned problems

In view of the **ill-conditioned problems arising** there is **no chance to solve the equations with do-it-yourself algorithms**, singular value decomposition is an absolute requirement.

In a great number of examples, based on actual data from industry, it has been shown that the rational procedure is superior to the **traditional procedures of solving eight or ten simultaneous equations iteratively. The discussor has no idea how this can be done reliably!**

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'Time histories'

The discussor fully endorses Recommendation 5 to the Conference concerning the recording of 'time histories'. Even if runs are considered stationary **sound performance and confidence analyses have to be based on instantaneous values** of the data.

Many problems in the evaluation of trials are **due to waiting for steady conditions, i. e. ignoring all interesting information, and using ill-defined average values.**

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Quasi-steady testing

In the METEOR and CORSAIR trials **quasisteady test manoeuvres** have been shown to be much superior to steady testing, the latter **providing not only much more information, but at the same time the necessary references for the suppression of the omnipresent noise**, even at service conditions in heavy weather.

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ISO/CD 15016

The statements concerning the ISO/CD 15016 are extremely short, particularly in view of the concerns of the shipbuilders not only in Japan and of the fact that on 1999.07.29 the secretariat of ISO/TC8/SC9 at JSMA has circulated a revised version of ISO/CD 15016 including a new example “for voting until 1999.10.10 concerning distribution of the draft as an ISO/DIS (Draft ISO Standard) according to ISO/IEC, part 1, section 2.6.1.”

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Agreements and discrepancies

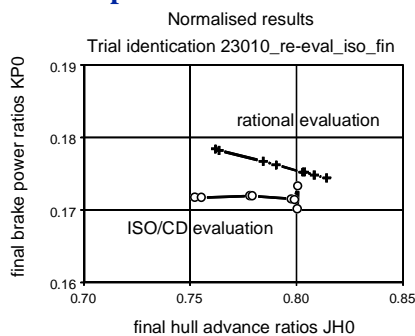
There are encouraging agreements and **disturbing discrepancies to be noticed** between the results of the re-evaluation and of the underlying ISO example.

The plot of the normalised final results according to the proposed ISO method shows a ‘behaviour’, to be attributed to **inconsistencies of the ISO method**, that nobody can seriously consider it as acceptable, meriting to be standardised!

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Results compared



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Questions

In view of this state of affairs the discussor would like to know the opinion of the Committee concerning the **course of action to be taken by the ITTC in view of the responsibilities of its member organisations?**

The opinions expressed in the **Conclusions and Rec's are more than unsatisfactory!** The discussor is particularly surprised at Conclusion 2 leaving the evaluation of speed trials to the ISO/TC8/SC9/WG2.

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Questions cont'd

The discussor is further surprised concerning the Recommendation 1 for Future Work requiring the **Specialist Committee to be continued, even though it will not actively contribute to work of the ISO/TC8/SC9/WG2. And that may be too late anyway if the ISO schedule** mentioned and known, to the members of the ITTC/AC at least since their Copenhagen meeting, **is being followed and not disrupted by the shipbuilders, and the ITTC?**

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