

## News flash: Current in the tank identified

-----Ursprüngliche Nachricht-----  
-with some essential [addenda]-

From: Michael Schmiechen  
Sent: Wednesday, August 6, 2014 8:13 PM  
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Bcc: Michiel Verhulst ; Patrick Hooijmans

Subject: Current in the tank during 'model' test successfully identified!

Dear Dottore, lieber Herr Doktor,

after a frustrating waste of time, due to a deeply hidden bug, I finally replaced the piece of defective code by a another piece looking identical, which I found among the many test versions piled up. And I immediately succeeded to identify the current in the tank, prevailing during my quasi-steady 'model' test of 1986.

The basic recipe is simply to analyse the quasi-stationary states 'passed' during the quasi-steady test. The mean current of about 2.6 cm/s and the 'tidal' current amplitude of about 3.1 cm/s 'look' reasonable, while the optimal 'tidal' period of about 4.4 s 'appears' to be rather short. But who knows, what was going on in the tank after seven preceding quasi-steady tests? [The optimal 'tidal' period identified is of course just a nominal value, resulting in minimum power residua deviating minimally from a normal distribution!] Full scale the tidal period is known in general!

This exercise completes my demonstration, that quasi-steady trials of half to oneg hour duration full scale, under any (!) service conditions, without (!) measurement of the thrust and without (!) anybody noticing, that such tests are being performed, are sufficient to identify the current [and the propeller powering characteristic in the behind condition etc: see the PS added] , the total resistance and the propulsive efficiency (!) at the [range of] conditions prevailing during the quasi-steady trial! As you noticed, the problems are to identify the conditions reliably at sufficient detail.

I shall put this note immediately on my website. According to DNB law it is thus a publication proper, [as all other material on my website]! The detailed analysis will be part of the second volume of my 'Festschrift', to be published in less than four weeks time on occasion of the 27th ITTC at Copenhagen. The procedure will of course be of utmost importance for the standard ISO 19030 under development, hopefully not suffering from the same fundamental defects as the standard ISO 15016, presently under 'repair' and maybe delaying progress for another decade.

A bottle of white wine and peaches, to go with it, are waiting for me!

Yours, Michael Schmiechen.

[PS: The fact, that I can identify the current from the stationary conditions passed during the quasi-steady trial, implies not only, that at the same time I am also identifying the propeller powering characteristic in the behind condition, but, on full scale (!), I can also identify the 'water' and the 'wind and wave' powers (!) required in the range of conditions covered during the trial. These conditions include among others the hull surface condition, the loading condition, thus the nominal submergence of the propeller and the sea state.]