MINUTES OF MEETING

SIMMAN 2008

Workshop on Verification and Validation of Manoeuvring Simulation Methods
www.simman2008.dk

SIMMAN 2008
Meeting of organizers and co-organizers no. 11

Participants
Lanfranco Benedetti (INSEAN), Riccardo Broglia (INSEAN), Evgeni Milanov (BSHC), Frans Quadvlieg (MARIN), Sun Young Kim (MOERI), Eduardo Tannuri (USP), Zao-Jian Zou (SJTU), Andrés Cura (HSVA), Pat Purtell (ONR), Fred Stern (IIHR), Kristian Agdrup (FORCE)

C.C. to
Takanori Hino (NMRI), Pierre Perdon (BEC), Yasuo Yoshimura (Hokkaido University), Joe Gorski (NSWC), David Hess (NSWC), Key-Pyo Rhee (Seoul National University), Radoslaw Glodowski (CTO), Hironori Yasukawa (Hiroshima Univ.), Michio Ueno (NMRI), Serge Toxopeus (MARIN), Adolfo Marón (CEHIPAR), Marc Steinwand (SVA), Paolo Bulgarelli (INSEAN), Claus Simonsen (FORCE)

Date	Place
Jan 23, 2009	INSEAN, Italy
No. of pages: 3	Minutes taken by: Kristian Agdrup

Agenda

1. Finalize issues regarding EFD including model test reports:
   a) KCS
   b) KVLCC
   c) 5415
2. Presentation of layout & contents for updated comparisons:
   a) Free manoeuvres (Part G)
   b) Forced motions/CFD (Part H)
3. Discussion of layout & contents for Chairman summaries (Part A)
4. Updated plan for completion of final proceedings
5. Other outstanding action items

1. EFD issues

a) KVLCC

Free model test data has been received from CTO. Will be included in final proceedings.

Following EFD reports for KVLCC are missing:
no. 4: CMT / NMRI
no. 6: free / MARIN
Extended deadline is mid February.

Additionally:
- Correction of MOERI PMM data from model to ship SPP is still pending. It is now too late for update of simulations for proceedings, but corrected data should be stored on the FTP server for future use and commented in KVLCC EFD overview.

- Regarding the INSEAN PMM tests Benedetti informed that the static measurements for zero drift and zero rudder are affected by an offset error (both KVLCC1 and KVLCC2), and that for KVLCC2 the pure rudder tests are affected by a wrong rudder setting. These errors cannot be corrected, i.e. a number of files/points must be removed. FORCE will update their analysis and simulations accordingly for the final proceedings.

Action items

No.	Responsible
#1	Quadvlieg
#2	Ueno
#3	Quadvlieg
#4	Kim
#5	Agdrup

b) KCS Free model test data has been received from IHI, Japan. Will be included in final proceedings.	#6	Quadvlieg
Following EFD report for KCS is missing: no. 9: CMT / NMRI Extended deadline is mid February.	#7	Ueno
Additionally: - CEHIPAR PMM tests have <u>not</u> been repeated (as reported at Meeting #10). However, Marón has informed that the tests were not performed with the prescribed motions, which may be the cause of the unusual behaviour in pure yaw. Some checks are still pending.	#8	Marón
- Regarding the free model tests at BSHC, Milanov confirmed that the speed in the zig-zag tests was substantially lower that the nominal speed. Other initial conditions were controlled by an autopilot, maintaining a turn rate close to zero at the start of the manoeuvre. BSHC are willing to repeat tests at a later stage if the model is made available. - Since the free model tests at SVA were done with a wrong rudder rate and the free tests at IHI were done with a higher GM, there is no reliable benchmark data for the zig-zag tests. To be commented in EFD overview.	#9	Cura
c) 5415 Following EFD reports for 5415 are missing: no. 14: PMM+CMT / MARIN no. 18: CMT / BEC no. 19: free / MARIN Extended deadline is mid February.	#10 #11 #12	Quadvlieg Perdon Quadvlieg
Additionally: - Corrected free model data from MARIN as well as full test report is ready. To be sent to Agdrup for upload on FTP server.	#13	Quadvlieg
As soon as all model test reports are available, the 3 EFD chairmen should review and make overview for Part C of final Proceedings. Agdrup will send out template for layout and content of these documents. Deadline for EFD overview sections is mid March.	#14	Kim, Cura, Agdrup
<u>2. Updated comparisons</u> **a) Free manoeuvres (Part G)** Quadvlieg presented updated draft. Changes from preprinted version are: - submissions grouped into 5 groups using colour codes - table added for overview of submitted simulation methods specifying name, type, DOF, ship/model SPP and RPM strategy - KCS results from IHI added - extreme results are “truncated” on bar charts and removed from time traces to keep reasonable axis limits		
It was agreed to change/update following additional items: - KVLCC1+2: add CTO data (bar charts and tables only) - KVLCC1+2: remove submission “Force-Insean_raw” - KVLCC2: update submission “Force-Insean_mod” - all hulls: add comment in figure captions where data is truncated/removed - all hulls: check/update RPM strategy entries in table	#15	Quadvlieg

<table>
<tr><td>b) CFD/Forced manoeuvres (Part H)
Stern presented updated draft. Changes from preprinted version are:
- introduction of manoeuvring derivatives as part of comparison using the same mathematical model (traditional Abkowitz type, up to third order) for all hulls as well as phase angle
- calculation of error between CFD and EFD both for raw data and for reconstructed (fitted) data
It was agreed to change/update following additional items:
- check/update caption on figures with “reconstructed CFD...”
- include stability lever (l=lr-lv) in tables of derivatives
- show time series based on reconstructions to evaluate “combined error” of fit
- comments from Agdrup/Simonsen/Broglia to be taken into account</td><td>#16</td><td>Stern</td></tr>
<tr><td><u>3. Chairman summaries of comparisons (Part A)</u>

Free manoeuvres:
Hulls will be treated separately but following a unified scheme. Each group of submissions will be compared with the benchmark free model test data and observations and conclusions will be stated. Quadvlieg to take lead and send proposal to rest of subcommittee.

Forced manoeuvres (CFD):
Hulls will be treated together. Summary will include observations and conclusions from comparison of both mean values, time series, derivatives and reconstructions relative to the EFD data. Stern to take lead and send proposal to rest of subcommittee.</td><td>#17

#18</td><td>Quadvlieg, Rhee, Perdon, Agdrup

Stern, Broglia, Gorski, Hino</td></tr>
<tr><td><u>4. Plan for completion of final proceedings</u>
The following revised schedule was agreed upon:

<table><tr><td>final version of comparisons (parts G and H)</td><td>mid Feb</td></tr><tr><td>chairman summaries, individual</td><td>mid Mar</td></tr><tr><td>chairman summaries, compiled</td><td>end Mar</td></tr><tr><td>deadline for comments from all chairmen</td><td>mid Apr</td></tr><tr><td>overall conclusions</td><td>start May</td></tr><tr><td>compiled proceedings</td><td>mid May</td></tr><tr><td>proceedings sent out on CD-ROM</td><td>start June</td></tr></table></td><td></td><td></td></tr>
<tr><td><u>5. Other outstanding action items</u>
Paper for MARSIM 2009: no message of acceptance from organizers yet. Official deadline for paper is mid April. Stern and Agdrup will take lead on paper and distribute for comments. Paper will be presented by Agdrup.</td><td>#19</td><td>Stern, Agdrup</td></tr>
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