



Form of Written Discussion at the 27th ITTC Conference

Discusser	
Name	Chengsheng Wu
Affiliation	CSSRC (China Ship Scientific Research Center)

Name of Technical Committee or group to be discussed	Ocean Engineering
<p>Written Discussion (within 1,000 words of length)</p> <p>In the model test of ships-ship interaction carried out in Memorial University</p> <ol style="list-style-type: none"> 1. The ship models moved with forward speed or zero speed in head waves; 2. How many wave probes are used for the measurement of wave elevation in the gap between ship models? <p>Answer:</p> <p>The tests at Memorial University were carried out for two models at zero speed. Three wave probes were used to measure wave elevations in the gap; one was aligned with the midship section and the other two were 0.5 m forward and afterward the midship location, respectively.</p>	



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Name	Marc VANTORRE
Affiliation	Ghent University / Flanders Hydraulics Research (Belgium)

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Written Discussion (within 1,000 words of length)	
<p>Speaking for all authors of the paper, the use of Figure 7.1.1 is appreciated.</p> <p>A few comments, however:</p> <ul style="list-style-type: none"> • The paper (Ruiz et al., 2012*) is missing in the references; • Thruster-thruster interaction is not only of interest for DP-situations, but also ??? steering and manoeuvring of e.g. ??? vessels equipped with such thrusters. <p>*: The correct ref. is: TELLO RUIZ, M.; DELEFORTRIE, G.; VANTORRE, M.; GEERTS, S. (2012). Propulsion and steering behaviour of a ship equipped with two contra-rotating Z-drives, in: X International conference on hydrodynamics ICHD-2012</p> <p>Answer:</p> <p>We agree that the thruster-thruster interaction is not limited to DP operations and it is an issue in the manoeuvring of ships equipped with thrusters. As the Committee's focus is on stationary ocean structures, most of the discussions have been on dynamically positioned floating structures.</p> <p>Thank you for pointing out the missed reference. It is now included in the revised report.</p>	



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(Deadline of submission is 14th August 2014, to be sent by email to aad@force.dk)**

Discusser	
Name	Dr. Montasir Osman Ahmed Ali
Affiliation	Head of Offshore Engineering Laboratory UTP

Name of Technical Committee or Group to be discussed	Ocean Engineering
<p>Written Discussion (within 1,000 words of length) This is the first time I have read these impressive reports because UTP got its membership recently (2014). The following comments are related to the Ocean Engineering Committee report.</p> <p><u>Comment #1</u> In the excellent overview of the state-of-the-art, the report gives more attention to VIM compared to other issues pertaining to spar performance under environmental loadings. Other studies have been conducted on the slow drift motions (Effect of slowly varying drift forces on the motion characteristics of truss spar platforms, Ocean Engineering Journal, 2011), coupled dynamic analysis (Coupled dynamic analysis for wave interaction with a truss spar and its mooring line/riser system in time domain, Ocean Engineering Journal, 2011) and Spar application as offshore wind energy device (Feasibility of the Application of a Spar-type Wind Turbine at a Moderate Water Depth, Energy Procedia, 2012). I recommend these research topics to be included in the coming ITTC proceedings.</p> <p>Answer: Thanks for your comments. We agree these are important issues in offshore research. Extensive reviews on these topics were covered in the reports of 25th and 26th Ocean Engineering Committees. Considering the methods to solve these problems are relatively mature compared to others, the Committee decided to focus on VIM issues. We recommend the next Ocean Engineering Committee to revisit these topics.</p> <p>In addition, the renewable energy structures are under the terms of reference of the specialist committee for renewable energy systems. This is why the current Ocean Engineering Committee didn't review the progress in this area.</p> <p><u>Comment #2</u> Extrapolation methods are crucial in determining the mooring line/riser tensions for the prototype as all the wave basins worldwide have limited water depth and therefore mooring line/riser physical models are not fully representing the prototype system in terms of static and dynamic effects. According to the Ocean Engineering Committee report, there is limited work done on this area for the past few years. This should encourage researchers to make some effort with respect to this matter.</p> <p>Answer: We agree to the comments. As identified in the 26th ITTC Ocean Engineering Committee report, there are many parameters causing uncertainties in tests of mooring line and risers. The extrapolation methods, scale effect and damping effect for mooring lines and risers remain as the challenging issues. Research should be encouraged in this areas.</p> <p><u>Comment #3</u> I would like to congratulate the ocean engineering committee on the benchmark studies in VIV, wave run-up and multiple-body interaction in waves. For the later benchmark study, I suggest to extend this model test</p>	



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<p>program to consider irregular waves, short crested waves, current and wind forces. UTP offshore lab may contribute to this research.</p> <p>Answer: Yes, the studies can be extended to tests in irregular waves. However, the Committee would suggest to take a step-by-step approach. After completing the baseline cases for regular waves, we can extend the studies to irregular waves. We will welcome UTP's contribution.</p> <p><u>Comment #4</u></p> <p>The scale ratio has significant effect on the estimation of the dynamic motion of the prototype. I suggest to initiate ITTC procedure, which can be used to assess this effect particularly for large scale ratio.</p> <p>Answer: There are ITTC procedures available for ocean engineering tests, such as for offshore platforms, ocean energy devices, DP vessels, and riser VIV. These procedures usually recommend the scale ratios. The scale effect is important and a challenging issue across the board of ocean engineering problems, such as slamming, sloshing, mooring line, dynamic positioning and VIV/VIM. Depending on the problems, the scale effect can be difficult to deal with. The Committee agree to your comments and recommend further studies.</p>	