Извещение о принятии к опубликованию:

Acceptance LV13013 Abrashkin
От кого: prl@aps.org
Кому: alexandre.solovyov@mail.ru
4 декабря 2012 22:59
Re: LV13013
Vortical freak waves in water under external pressure action
by Anatoly Abrashkin and Alexander Soloviev

Dear Dr. Soloviev,

We are pleased to inform you that your manuscript has been accepted for publication in Physical Review Letters. We would also like to bring the appended referee comments to your attention.

Your manuscript will now be prepared for the production process. If any issues arise we will contact you, otherwise your manuscript will be forwarded directly to our production department. Please do not send a revised manuscript or figures at this time unless requested.

Yours sincerely,

Jane Throwe
Senior Assistant Editor
Physical Review Letters
The premier APS journal for current research
Email: prl@ridge.aps.org
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Thank you for your cooperation.

Second Report of Referee B -- LV13013/Abrashkin

The issues raised in the former reviewer report have been clarified.
The ultimate version of the paper is elegant and deserves publication

Переписка с рецензентами:

=-=

От: Alex Solovyov <alexandre.solovyov@mail.ru>

Кому: Анатолий Абрашкин <abrash@hydro.appl.sci-nnov.ru>

Написано: 13 ноября 2012 г., 20:17:37

Тема: Fwd: Your_manuscript LV13013 Abrashkin

Файлы: Письмо.html

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-------- Пересылаемое сообщение --------

От кого: prl@aps.org

Кому: alexandre.solovyov@mail.ru

Дата: Mon 12 Nov 2012 13:01:18

Тема: Your_manuscript LV13013 Abrashkin

Re: LV13013

Vortical freak waves in water under external pressure action
by Anatoly Abrashkin and Alexander Soloviev

Dear Dr. Soloviev,

The above manuscript has been reviewed by our referees. We ask you to consider the appended comments from the reports.

While we cannot make a definite commitment, the probable course of action if you choose to resubmit is indicated below.

( ) Acceptance, if the editors can judge that all or most of the criticism has been met.

(x) Return to the previous referee(s) for review if available.

( ) Submittal to new referee(s) for review.

With any resubmittal, please include a summary of changes made and a brief response to all recommendations and criticisms.

Yours sincerely,

Jane Throwe
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Second Report of Referee A -- LV13013/Abrashkin

The manuscript is acceptable for PRL after minor revision.

Page 1, right column.

« Dynamics of free surface and pressure for freak wave and surrounding background are studied. »

What does it mean « surrounding background » ?

Page 2, right column. « The parameter phi_0 is the phase shift. »

What is the physical meaning of this phase ?

Page 4, left column, discussion of results presented in in Table 1.
«If the steepness in near to 1, then the value of h tends to 0. ».
This sentence has no any relation to the Table 1. In the Table 1 there are no any values of steepness close to 1. This paragraph should be changed completely.

The first line in the Table 1. It makes no sense to specify the length of the surface wave, if its amplitude is zero.

Table 1 in revised version of the paper shows that the height of freak wave grows with the amplitude of Gerstner wave. In the previous version of the paper height of freak wave decreases with the amplitude of Gerstner wave. It is due to different phase shift phi_0. Your model is very sensitive to this parameter. This fact must be discussed in details.

Report of Referee B -- LV13013/Abrashkin

The authors present a mechanism possibly responsible of freak waves formation. An exhaustive list of mechanisms that could be responsible for freak wave formation is provided in Kharif and Pelinovsky (2009) (wave focusing, dispersion effects, wind or current interaction with waves). Here they test a further scenario based on an atmospheric pressure gradient. They prescribe an extremely abrupt pressure gradient at the free surface (equivalent to an initial atmospheric pressure gradient regards to the pressure continuity across the interface) and then they calculate analytically the evolution of an initial Gerstner wave (initial wave before the pressure gradient prescription). The paper is interesting and deserves publication in PRL after some concerns will be clarified :

1) The description of their analytical approach is interesting but it is difficult for me (and for readers) to comment it because I do not have access to the original paper describing it. Maybe the authors should make efforts to detail the method. I understand it is difficult considering the PRL constraints and pages limitation. But the formalism used really needs to be delailed. Numerous statements about the method are completely hermetic if no physical comment is provided.

2) The second concern is about the initial pressure gradient that is prescribed : Is a 80-90% drop of the atmospheric pressure over a distance of 10 m realistic ? The authors state in the conclusion that a 100m drop is possible for a hurricane. Right, but with a an extremely much smaller pressure gradient. Since the objective of the paper is to tentatively propose a possible mechanism for effective freak waves this should be discussed. Such an extreme pressure gradient may eventually occur in tornadoes. May I suggest the authors to consider in their calculations a wide range of pressure gradients and associate the corresponding atmospheric phenomenon. That should not be PRL page-consuming (only a Table). I thing is it is necessary to match a realistic atmospheric pressure distribution that would yield a doubling of the Gerstner amplitude and then derive freak wave conditions.

=-=