

***Interactive comment on “Asymptotes of the  
nonlinear transfer and wave spectrum in the frame  
of the kinetic equation solution” by  
Vladislav G. Polnikov et al.***

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The letter of reply on the comments by Dr. S. Badulin on manuscript “Asymptotes of the nonlinear transfer and wave spectrum in the frame of the kinetic equation solution” by Vladislav G. Polnikov, Fangli Qiao and Yong Teng

First of all, we share all comments by Dr. Badulin into three types: 1) Editorial, 2) Methodical, 3) Physical. Below, consider them step by step. 1) The first kind of comments (in the notations by Badulin: P3L19-20, about name of Geogjaev, and P4L25, about missing of the reference) are accepted. We thank Dr. Badulin for these comments. Though, all editorial comments do not influence on the results understanding,

and could be easily improved whilst the final edition of the text.

2) The second kind of comments (all the others: about the KI kernel, verification of algorithm, and so on) are the statements not furnished with proofs. (See our supplement also). All the features of the used numerical methods were described and verified by Dr. V. Polnikov (1989, 1990) long before the appearing any calculations by the Zakharov's group (including Dr. Badulin). If researchers read the proper papers attentively, they could find the answers to their questions. Indeed, in paper Polnikov (1989) the total checking of the method for the KI estimations was executed, which was never repeated by other authors, including Masuda(1980), Resio and Perrie (1991), Van Vledder (2006), and the Zakharov's group. We have never seen detailed description of their results about accuracy of the KI estimations and the total energy and wave action conservation! The same we can say about details of the algorithm for the KE solution (compare descriptions in Polnikov 1990; Resio and Perrie , 1991; Komatsu and Masuda, 1996).

Thus, we cannot discuss the points of the methods and accuracy remotely. It needs to gather together, moreover, as some authors are living in Moscow, and clarify all details. Face to face. Otherwise, all the statements are not furnished with proofs. Dr. V. Polnikov have addressed to S. Badulin with this proposal several times, unfortunately, without positive reply. It seems that in this point there is a conflict of interests (see the proper remark in our supplement).

In turn, we have several doubts about features of the WRT method used by Badulin (and the Zkharov's group). But it is not a point for the remote discussion. We simply trust them and accept their results for further references (see the list of references). Hereby, we could close this methodical point and address directly to the physical results.

3) Unfortunately, any statements about our physical results and conclusions are simply absent in Dr. Badulin's comments. He said that "Numerous inconsistencies .... do

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not allow quantifying the results as confident". It means that Dr. Badulin simply has refused of "the discussion in essence". No one of our physical results and conclusion statements was not argued (in no way). As far as the conclusions of the paper are not argued, in fact, we have nothing to discuss.

If somebody repeat our calculations, and obtain the same or other results, it will be a good reason for the discussions. Hope that publication of our paper will stimulate such researches.

In addition to the said, some detailed replies to Dr. Badulin's comments are pasted directly into the text of his comments, and attached as the supplement to this letter of reply.

We hope that all our arguments (said above) will be taken into attention during the professional reviewing the text of our manuscript.

On behalf of the co-authors, Dr. Vladislav Polnikov 03.09.2018

Please also note the supplement to this comment:

<https://www.nonlin-processes-geophys-discuss.net/npg-2018-35/npg-2018-35-AC1-supplement.pdf>

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