

Subject: Re: Invitation to contribute: Special Issue "Neutron Lifetime"
From: Wanpeng Tan <wtan@nd.edu>
Date: 2/15/23, 10:33
To: bgrinstein.ucsd@gmail.com

Dear Ben,

As you may be aware, my submitted review paper has gone through two rounds of reviews. The managing editor is still asking for further revision, even though I have answered all the reasonable questions the referees raised. There is no option online to write to editors like you only. So I am writing to you directly about my concerns.

Out of all three reviewers, it seems to me that only the second one is really competent, and is the only one who recognizes the importance of the work and eventually approves its publication. Out of the two points raised, the first reviewer did not dispute about the 2nd point in my response. So I assume that he/she agrees with me on the 2nd point. But clearly, he/she became angry when I pointed out his/her misuse of the concept of "storage time" in my reply. I don't think that the 1st reviewer really understands one of the essential points of this paper: the unknown systematic effect from the result of the NIST Ioffe-type magnetic trap (Craig Huffer's PhD thesis) is presumably due to n - n' oscillations. This is recognized after extensive discussion with the original group of that experiment and further simulation studies using the new model by that group. But clearly, the reviewer did not listen, even though I have explained all these in my reply letter.

I'd like to stress again that the concept of "storage lifetime" is particularly valid for magnetic traps since, in principle, any systematic corrections should be minimum in magnetic traps. At least that is the goal or the reason why such traps have been used, and the UCNTau group did claim such a success. To see the evidence of the misuse by the 1st reviewer, one can clearly see that in the first trap experiment [25], and many other followup experiments including ones using magnetic traps (e.g., more recent [35] [6] [9]), "storage time" was used to mean the duration during which UCNs are stored in a trap. Even in the HOPE trap experiment [34], they used "storage time constant" to mean "storage lifetime", which is fine.

As for the 3rd reviewer, that report came after I had submitted my revision. And I don't see any scientific questions in that report.

I understand that it is very tough to publish any non-mainstream ideas. Please let me know about your decision on this manuscript for publication in Universe.

Thanks,

Wanpeng

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