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## Invitation to review revision for Applied Radiation and Isotopes

1 message

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**Applied Radiation and Isotopes** <em@editorialmanager.com>  
Reply-To: Applied Radiation and Isotopes <support@elsevier.com>  
To: Tarik Siddik <tarik.reshid@su.edu.krd>

Mon, Mar 20, 2023 at 4:37 PM

Manuscript Number: ARI-D-23-00104R1

A Study on the Excitation Function Calculations of Deuteron-Induced Reactions for 10,11B and 12C nuclei

Dear Dr Siddik,

I would like to invite you to review the above referenced revised manuscript, as you kindly reviewed the previous version of this manuscript. Anonymised reviewer comments to author for the previous version are included below.

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Since timely reviews are of utmost importance to authors, I would appreciate receiving your review within 14 days of accepting this invitation.

I hope you will be able to review this manuscript. Thank you in advance for your contribution and time.

As a reviewer you are entitled to complimentary access to references, abstracts, and full-text articles on ScienceDirect and Scopus for 30 days. Full details on how to claim your access via Reviewer Hub ([reviewerhub.elsevier.com](http://reviewerhub.elsevier.com)) will be provided upon your acceptance of this invitation to review.


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Kind regards,

Ferenc Szelecsenyi  
Receiving Editor  
Applied Radiation and Isotopes

Comments to author for previous version:

Reviewer 1: (Previous Version)

Manuscript Number:  ARI-D-23-00104

A Study on the Excitation Function Calculations of Deuteron-Induced Reactions for 10,11B and 12C nuclei

Dear Prof.Dr. Szelecsenyi

Many thanks for the opportunity to review your work. This manuscript needs several minor changes. Therefore, I recommend to you that this manuscript can be accepted after the following minor changes are reconsideration.

- \* The paper would benefit from a revision by someone proficient in the English language.
- \* The authors should prove that their calculations have a meaning and importance for the field.
- \* References should be reviewed and studies from the current literature should be included.

Regards  
Tarik Siddik

Reviewer 2: (Previous Version)  
Comments on manuscript ARI-D-23-00104

Title: A Study on the Excitation Function Calculations of Deuteron Induced Reactions for 10,11B and 12C nuclei

Authors: M. Yiğit, A. Kara, N.B. Yiğit, M.E. Korkmaz, E. Tel

Highlights by authors.

- \* Cross sections of deuteron induced reactions on the 10,11B and 12C nuclei were calculated.
- \* Excitation functions were calculated by the TALYS 1.95, ALICE/ASH and EMPIRE 3.2 codes with different parameters.
- \* The results are compared with the experimental data.

Referee comments:

The presented paper includes novelty, and it contains relevant information for the readers of Applied Radiation and Isotopes This work is scientifically sound, but it needs revision before its publication. The figures are generally clear and informative but they have some corrections needed.

The paper has some problems and those must be corrected:

1. The user manual of TALYS states that the code is intended to use "for target nuclides of mass 12 and heavier". Therefore, the code would not be applicable for the B-10 and B-11. Maybe this is not a strict rule, while the calculation was run in these cases. The question is whether the used databases have included the parameters for all nuclei used in the calculation.
2. There is funny behavior in Fig. 1 in some TALYS calculations. There are steps in the cross sections at about 12 MeV in the Idmodel2 and 3, about 16.5 MeV in Idmodel2, and about 21.5 MeV in Idmodel4 and 6. These are not the natural behavior calculated curves, it indicates some inconsistency of the input data. Similar effects can be found in all figures, even 12C(d,alpha)10B excitation functions, therefore it probably does not follow from the restriction mentioned earlier. You have to find and solve the problem.
3. There are 10 curves but 12 different models in Fig. 1. You mentioned later in the conclusion that some curves completely overlapped with each other. You can do this by plotting every third data point so that all data sets become visible.

I propose to publish the manuscript after the correction is done.

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