



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_48117
Title of the Manuscript:	DEPLETION ANALYSIS OF THE NIGERIAN RESEARCH REACTOR FUEL WITH 19.75% ENRICHED UO₂ MATERIAL
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	The depletion analysis of the Nigerian research reactor fuel with 19.75% enriched UO ₂ was performed using the VENTURE PC code. The matrix exponential method was selected in this work to perform the depletion analysis. The volume fraction of the materials in this mixture was calculated and multiplied by their respective atom densities to obtain the effective atom density of the nuclide in the water, Al mix region of the fuel cell model. The plot of the variation of k infinity versus hydrogen to Uranium ratio was generated using Matlab programming language for processing of the computer code result. On the whole, the work is simple and weak. Some comments and suggestions are raised after the review of this manuscript.	
Minor REVISION comments	1 Related references should be critically reviewed. The problems behind should be deeply discussed. The originality/novelty should be further addressed. 2 Why did the authors select 19.75% U235? 3 Tables are not well presented or introduced. 4 The authors introduced the figure, whereas it is not well discussed. 5 English should be improved, i.e., different flux level, The NIRR-1 also consist of 4 tie rods and 3 dummy pin, each zones, etc.	1 Noted 2. The present Nigeria research reactor-1 (NNR-1) system is fueled with UAl ₄ -Al enriched to 90.2% U235. 3 tables have been re-introduced 4 more discussion have been included for the figure 5 Noted
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	