



**SDI Review Form 1.6**

Journal Name:	<a href="#">Physical Science International Journal</a>
Manuscript Number:	Ms_PSIJ_42996
Title of the Manuscript:	ESTIMATION OF ANNUAL EFFECTIVE DOSE DUE TO INGESTION AND INHALATION OF RADON IN GROUNDWATER FROM KADUNA, NIGERIA.
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)
<b>Compulsory</b> REVISION comments	<p>Overall: The findings of the paper were not very clear and the language usage and paper structure could be heavily improved.</p> <p>Please be careful in your use of Radon concentration and activity. Concentration is a mass unit, whereas for radionuclides, decay per sec is used to quantify them. Please correct the terminology accordingly.</p> <p>The Introduction lacks clarity and the primary objective of the paper remain elusive. Improving on these points could help make paper much better read.</p> <p>Lastly, to improve the overall impact of the paper, it will be helpful to know the Ra content in the water as both Rn and Ra contamination in groundwater is a problem. Knowing Ra activities in groundwater will also provide a metric to keep track of Rn mass balance and identify any leaks/degassing which may have occurred during sampling in the field.</p>	
<b>Minor</b> REVISION comments	<p>Line57: Please provide some numbers regarding the Radon activities in groundwater measured in Nigeria and how does that compare to threshold Nigerian regulated maximum allowed Rn in groundwater?</p> <p>Line 66: Please provide a map of your field site, identifying the location where sampling was performed.</p> <p>Line 176: Careful with terminologies...you are reporting data in Radon activities but title says Radon concertation.</p> <p>Line 42: It is not clear why Rn-222 activities vary in groundwater. Please refer to paper: Mehta, N.; Kocar, B.D. Deciphering and Predicting Microscale Controls on Radon Production in Soils, Sediments and Rock. <i>Soil Syst.</i> <b>2018</b>, 2, 30. to clarify why you would suspect variation in Rn activities in groundwater.</p> <p>Line 62: Again why Rn activities vary in groundwater</p> <p>Line 100: Include method reference for measurement of Rn in aqueous sample.</p> <p>Line 101: Please justify why toluene based cocktail is used versus Ultima-AB or any other</p> <p>Line 136: Please use notations to write Equation 2 as in its present form. You can define the various notations under the equation, as done for Eq 1.</p> <p>Line 141-144: Where are the reference for DCF values?</p> <p>Line 185: Couple more sentences discussing the low level of Rn and spatial variability in</p>	



SDI Review Form 1.6

	Rn activity here will increase the impact of manuscript Line 190: Provide briefly the errors that may be associated with the Rn measurement technique, including Rn leakage during sample collection etc. and how they could play a role in measured low Rn activity levels in groundwater.	
<u>Optional/General</u> comments		

**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

Name:	<b>Neha Mehta</b>
Department, University & Country	<b>Massachusetts Institute of Technology, USA</b>