

Review Form 1.7

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| Journal Name: | Journal of Advances in Mathematics and Computer Science |
| Manuscript Number: | Ms_JAMCS_112122 |
| Title of the Manuscript: | Uncertainty Quantification of the Buckley Leverett Equation with Random Oil Viscosity |
| Type of the Article | |

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) |
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| <p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> Is the manuscript important for scientific community? (Please write few sentences on this manuscript) Is the title of the article suitable? (If not please suggest an alternative title) Is the abstract of the article comprehensive? Are subsections and structure of the manuscript appropriate? Do you think the manuscript is scientifically correct? Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p> | <ol style="list-style-type: none"> The author performed a data driven method to quantify uncertainty in water saturation in a reservoir due to randomness in oil viscosity using Buckley Leverett equation with the help of Monte Carlo Simulation approach. To benchmark the stochastic results, the author used a finite volume solver. Results for mean and variance of water saturation is presented graphically, and reasoning of the results are also presented. Yes, I believe the present title is well suited. Yes, Abstract is comprehensive. Yes, the paper is reasonably structured. Yes, to the best of my knowledge, I believe the manuscript is scientifically correct. References are satisfactory. <p>Overall, it is a good paper and in scope of the journal. It will be of interest to the research community. It is recommended for publication.</p> | |
| <p>Minor REVISION comments</p> <ol style="list-style-type: none"> Is language/English quality of the article suitable for scholarly communications? | <p>Yes, the language and flow of the paper is fine, but significant typos are present, and I have highlighted as well. It is advisable to go through the paper again and correct that.</p> | |
| <p>Optional/General comments</p> | <ol style="list-style-type: none"> In some places literature review just one line of what that paper is done. The literature survey is reading the paper and writing insights from the paper such as what learning is relevant from the paper for the research. It is recommended that insights from references should be presented properly. In the results, it is recommended that more statistical inference could be added such as minimum value, maximum value, range to understand the bounds of the parameter. Moreover, a distribution fit study could be conducted to understand what distribution it follows. Uncertainty quantification when less data is present can be added as a part of future research | |

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PART 2:

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

Reviewer Details:

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|----------------------------------|----------------------------------|
| Name: | Naman Jain |
| Department, University & Country | Siemens Technology, India |