

The manuscript presents a new version of WOA based on the movement strategies of PSO and DE. Some benchmark functions and engineering problems are used to check the reliability and the effectiveness of the proposed algorithm. The ideal using hybrid technique is normal and not reach high academic. However, the following issues should be addressed before the reviewer recommends it to be published in the Journal.

1/ Optimization algorithm have proved the effectiveness in engineering field. Recently, many effective algorithms have been proposed such as: TLCO

<https://doi.org/10.1016/j.eswa.2022.119211>; KO

<https://doi.org/10.1016/j.knosys.2022.109189>); POA <https://doi.org/10.1038/s41598-022-12030-w>; NMS-CS <https://doi.org/10.1016/j.eswa.2021.115669>

2/ WOA maybe the same metaphor with GWO. Both two algorithms were developed by the owner. The author should explain in more detail how difference between two algorithms.

3/ The hybrid technique is sure to enhance the effectiveness however, it will increase the computational cost. The authors must compare the time for each benchmark functions with the other algorithms.

4/ nowadays, there are many optimization algorithms have been proposed even everyday.

I wonder Why the authors need to proposed a new version, some recent algorithms can handle well in solving optimization problems.

5/ There are many optimization algorithms proposed, why the authors use WOA optimization algorithm? To verify the effectiveness of the proposed method, the authors should compare the performance of GA with some optimization algorithms (TLCO and KO). The lack of any studies in this respect in the study is a major shortcoming. The reviewer suggests to add this section.