

Interactive comment on “Multi-objective entropy evolutionary algorithm for marine oil spill detection using cosmo-skymed satellite data” by M. Marghany

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This work of oil spill by using Italian SAR sensor is very significant for the Southeast Asia. Microwave remote sensing will replace optical data in future. So this work is encouraging the southeast Asian countries to use microwave remote sensing in different applications. However, this work is required some minor revision before final publication. I stated several important points to be tackle as follows:

1-The author is supposed to provide the main theory about how microwave remote sensing can be used for monitoring oil spill? Then address the other SAR sensors are used in general which are followed by Cosmo-skymed. This is supposed to be at the

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first paragraph of introduction.

2-Author are required to address the work done on oil spill monitoring using Cosmo-skymed.

3- After three steps of oil spill automatic detection, it is better to follow by using intelligent learning machine algorithms such as GA and multi-objective algorithms.

4- The novelty of the work must include Pareto optimal solutions. Then the objective must be revised based on Pareto optimal solutions. I suggest also to address Pareto optimal solutions more in discussion 's section.

5-Multi-objective entropy evolutionary equations must come first and then include entropy equation into Multi-objective entropy evolutionary equations.

6- Improve figure 1 based on Pareto optimal solutions.

7- Accuracy by using ROC need to be replaced by statistical significant difference between different classes which are addressed in Figures 6 and 7.

8- Revised the conclusion based on Pareto optimal solutions and suggestion number 7.

9-The paper can be accepted after minor revision as mentioned above.

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