

Response to Reviewer 1 Comments

General comments: The manuscript presents an interesting method for fusion of multitemporal optical and SAR images with deep neural network, to obtain a cloud removal result which can reflect the ground information change. Different from those deep learning methods, the proposed method can operate without training dataset. The authors presented a clear explanation of their motivation and the novelty. Furthermore, the proposed method outperforms other multitemporal-based methods. There are still some issues to be revised.

Response: We are particularly grateful to reviewer's suggestions of our research. An item-by-item response to the constructive comments follows. Thanks for your time.

Specific comments:

Point 1: Line 10: 'Existing reconstruction methods can hardly fail to reflect the real-time information.' The original sentence seems to express an exact opposite meaning again the whole paper. It seems that 'fail to' should be removed.

Response 1: Thank the reviewer for the valuable suggestion! We have deleted 'fail to' in the revised version: 'Existing reconstruction methods can hardly reflect the real-time information because they mainly make use of multitemporal optical images as reference.'

Point 2: Line 57: 'Accuracy and authority of multitemoporal methods' results can be guaranteed.' 'Multitemoporal' should be 'multitemporal'

Response 2: Thank the reviewer for carefully reading. We have corrected the wrong word in the revised version: 'Accuracy and authority of multitemporal methods' results can be guaranteed due to the existence of reference data.'

Point 3: Consider adding a brief explanation of the evaluation indexes with indication of whether a higher or lower score is aimed for.

Response 3: Thank the reviewer for the valuation advice! We have added the explanation of evaluation indexes in the revised version: "For PSNR, SSIM and CC, a higher score indicates a better result. For SAM, a lower score means the better result."

Point 4: In Table 1, the acquisition periods of O1 and O2 in Real data exp 2 do not

correspond to S1 and S2. Please check them.

Response 4: Thank you for elaborately reading and forgive our thoughtless mistake. We have checked this mistake in Table 1 in the revised version.

Table 1. Acquisition time of images.

Simulation exp	S_1	S_2	O_1	O_2
1	2020.03.22	2020.07.08	2020.03.23	2020.07.06
2	2019.11.16	2020.05.02	2019.11.14	2020.05.02
3	2019.10.20	2020.05.23	2019.10.19	2020.05.21
4	2019.11.01	2019.12.13	2019.10.31	2019.12.10
5	2019.10.18	2019.12.05	2019.10.19	2019.12.08
6	2020.03.24	2020.04.05	2020.03.26	2020.04.05
7	2019.08.27	2020.08.09	2019.08.23	2020.08.07
8	2019.08.31	2020.07.02	2019.09.05	2020.07.01
Real data exp	S_1	S_2	O_1	O_2
1	2021.04.09	2021.05.03	2021.04.08	2021.05.03
2	2021.04.20	2021.04.14	2021.04.23	2021.04.15

Point 5: Figure 7 and Figure 8 seem to share the same explanation. Please check them or re-explain Figure 8.

Response 5: Thank the reviewer for precious advice. We have renamed Figure 8 as ‘Magnified area from Figure 7’ in the revised version.

Point 6: About reference: Reference part should use the citation style of ‘Remote sensing’. It is obvious that the author used a wrong citation style.

Response 6: Thank the reviewer for elaborately reading and we are sorry for our carelessness. We have corrected the citation style in the revised paper.