

Interactive comment on “A cloud identification algorithm over the Arctic for use with AATSR/SLSTR measurements” by Soheila Jafariserajehlou et al.

Anonymous Referee #2

Received and published: 16 December 2018

This paper propose a new algorithm for cloud identification over the Artic area, which is a relevant topic for the scientific community. The results shown in the paper are promising, although the paper needs to be revised. Here are my major comments:

Please check you English. The content of the paper really suffer from lack of structure, wrong grammar and misplaced commas. Also, you should not use an article before ASCIA, except when it is used as adjective. Example: “ASCIA retrieves clouds over Artic” or “The ASCIA retrieval over Artic”. This is true for all acronyms and abbreviations (e.g. SLSTR). Since (which certainly does not require a comma) introduces a subordinate sentence, which cannot be separated from the main clause by a full stop.

Printer-friendly version

Discussion paper



It is not clear to me whether or not your algorithm is applicable during winter. At line 357 you write that your targeted seasons are spring, summer and autumn and then you choose March, May and July. This is already confusing by itself. Later, at line 362 you write that ASCIA is not optimized for winter time. Could you please clarify this?

Fig. 5 The left panel over Greenland shows 2 rectangles in left part of the image. Could you please discuss where they arise from? Your algorithm shows promising results, but it is always worthwhile to discuss its limitations.

L398 You say the computing time is higher. How higher? Please give an estimate.

L428 I agree with the other reviewer, 45 minute time difference seem to me quite large for validation purposes. Maybe you should introduce a filtering?

Sections Results and Validation could be compressed in one section, as even when presenting the results you do some qualitative validation against other cloud products.

L454 Could you please show part of the evaluation against AERONET? AS the latter is a well-known reference for every reader, the validation against it deserves more than 2 lines of text. Also, which version are you using? And why L1.5 instead of L2.0?

Technical comments L151 The SLSTR revisit time is 1.9 day at the equator with one satellite and 0.9 day with two satellites, not single/dual view.

Table 3. The title of the second column should be something like “Test”

Figures 1-2, fig. from 5 to 13 and fig. 16 should indeed be larger.

L339-347 please simplify these lines. Throughout your manuscript sentences are often too long, but here they really affect the readability. Simplify the lines here and maybe add more information on the caption of the figures (for example the exact coordinates of the corners).

L16 reflection at 3.7 μm

[Printer-friendly version](#)[Discussion paper](#)

L18 e.g. e.g.

L32 Though the attribution of the origins of this phenomenon

L76 the aim is

L104 it is also planned to apply it to the observations acquired by SLSTR

L123 In the upper right

L131 Each scene is

L142 These algorithms are typically not optimized

L168 For example, they are almost absent in the central parts

L187 AERONET is ...

L206 Then the PCC can be written as

L207 function of the covariance

L241 no new line

L254 Here you should compact everything in one sentence

L285 AATSR provides

L310 found that a PCC of 06

L319 ASCIA starts looking for remaining small cloud scenes within a block, i.e. scenes ... ($R_{3.7} > 0.04$)

L333 it is important to note that one scene, ...

L334 The latter mix with soil and becomes

L339 a representative example

L373 cloud free scene which ISTO failed to detect but are correctly labeled by ASCIA.

L393 Both the ESA and ISTO

L447 would be expected from SYNOP

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-231, 2018.

AMTD

[Interactive
comment](#)

[Printer-friendly version](#)

[Discussion paper](#)

