Geoscientific
Instrumentation
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Discussions

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comment**

Interactive comment on "Morphology of an arid landscape utilising synthetic-aperture radar (SAR) and differential interferometric SAR (DInSAR), southern Riyadh, Central Arabia" *by* Mohamed Daoudi et al.

Anonymous Referee #1

Received and published: 24 October 2020

General comments (G)

Although I have really appreciated the authors' efforts in applying complex techniques in the field of active remote sensing, I have noticed the following general issues in this manuscript:

General comment 1. Introduction. A big part of the introduction is only dedicated to the description of the study area. In scientific papers, I would expect: (I) general problem introduction; (II) at least a synthetic state of the art; (III) statement of the objectives;

(IV) description of the novelties introduced by this paper.

General comment 2. Data and method section should be improved with a better description of the implemented techniques and procedures; General comment 3. The discussion section does not provide links between results and objectives.

Specific comments:

Specific comment 1. lines 29-60 can be moved to a dedicated section (e.g. "Study area");

Specific comment 2. lines 80 – 81 " This makes it possible to measure vertical ground displacements up to 28 mm in the case of the C-band". Each fringe should be multiplied by 28 mm;

Specific comment 3. lines 74 -76 "It is directly usable and comparable to the optical image, and is also directly related to the surface conditions, thus, some surfaces are represented by a high radiometric value, such as water surfaces, whereas dry surfaces appear with low radiometric values". Normally, water surfaces have a low back-scattering.

Specific comment 4. Lines 95-100. Could you explicitly state the novelties introduced by this study?

Specific comment 5. Data and method section (see general comments). Moreover, I would suggest adding more details on the software (GAMMA right?) used (including a reference)

Specific comment 6. Figure 3. Scale bars are barely visible. Coordinates grid should be present;

Specific comment 7. Lines 139-145. Could you improve this paragraph considering: (I) an exhaustive description of equations; (II) a definition of the color of the pixel (RGB?);

Specific comment 8. lines 149-150. In the method section, the methodology for land-

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scape detection is not introduced.

Specific comment 9. Figure 8. Abscissas and Ordinates are barely visible

Specific comment 10. line 170 "estimated". How?

Specific comment 11. line 175 "subtracted". Could you be more precise?

Specific comment 12. Lines 254-259. This is not a discussion related to your results.

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss.,
https://doi.org/10.5194/gi-2020-32, 2020.