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Interactive comment on “Retrieval of snow grain size and albedo of Western Himalayan snow cover using satellite data” by H. S. Negi and A. Kokhanovsky

Anonymous Referee #1

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The paper is technically correct and provides a very useful introduction to the retrieval problem, its techniques and methods and data. The paper is well written and it is very helpful for a wide range of readers, from the most experienced colleagues dealing with retrieval of snow parameters from multispectral or hyperspectral data to newcomers.

There are few minor technical suggestions that I am suggesting at the bottom.

Though I understand the difficulties of finding a validation data set for the grain size, it would have been important to show the results of a snow model, for example, showing the differences between the results of the algorithm and those obtained with the snow model. I would strongly encourage the authors to perform such exercise in the future.

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Another point that I would have liked to see is the comparison of the results from Hyperion with those obtained from other sensors with a similar resolution such as LANDSAT or ASTER. Finally, it would be good to have a sensitivity analysis of how the results would be affected when different atmospheric corrections (that might be used for this case) are applied.

Minor suggestions:

p 607 - contamination , of what ? specify

p 607 - 'snow characteristics' - Specify and expand

p 607 - Line 16 - 'initially' -> in previous studies reported in the literature

p 607 Line 22 - this sentence does not make sense. Please elaborate

p 610 - The word 'significant' should be used only in a statistical sense. Please replace it with, for example, 'considerable' or similar

p 611 - at Sect. 5 - in Sect. 5

p 611 - Line 10 - delete Average (if that's a range how can that be the average ?)

p 611 - Line 19 – highly glaciated - what do you mean ?

p 612 - what is the 'standing snow' ? please use technical terms

p 615 why did you pick up 0.6 as a new NDSI value ? why not 0.5 or another number ?

p 626 Line 2 - is simple: something seems to be missing here

p 626 Line 6 - were used -> was used

Interactive comment on The Cryosphere Discuss., 5, 605, 2011.

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