Solid Earth
Discussions

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Interactive comment on "Remote sensing data processing by multivariate regression analysis method for iron mineral resource potential mapping: A case study in Sarvian area, central Iran" *by* Edris Mansouri et al.

Anonymous Referee #2

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In this paper, the authors used multivariate regression analysis as processing tool in ASTER images for enhancing the iron prospectively mapping. In summary, the idea and data look good, the mathematical background appears good. However, there is a considerable lack of motivation, context, focus and impact for the paper. This deficit is compounded by poor organizational structure of all parts especially, the results section. The manuscript is a bit thin in the discussion component of the data analysis and discussion section. I would recommend a major revision of the paper to clearly define the background knowledge, the motivation, the objective and the relevance of the results.

I attached a PDF file for the common revisions.

Details – The abstract has a slight problem with language and writing style such as using of unknown abbreviations (R2 and R2 adj), the studied area and problem definition is missing, clear the importance of the point.

- The introduction lacks motivation and context. There is no clear statement as to the problem at hand (why the work was done) or what is to be learned in terms of geology, iron occurrences in the area, comparison between the applied processing methods and the traditional techniques such as Principle Component Analysis (PCA). Give more details about the importance of the applied technique as previous works. Check the references in the part.

- The study area and geological background, you have write more about the origin and mode of occurrences of the iron zones, what are the common geological structures , trends and their effect in iron zone distributions as shown the geological map?

- In RS Data,. Which spectral bands (channels) of ASTER are used? State the wavelength range. What is the temporal resolution of ASTER images? Which dates of images are used? State the spatial resolution of ASTER image used. Also, you have clear the kinds of image correction which are applied before the processing analysis such as Atmospheric Correction (FLAASH), and mosaicking images, radiometric corrections.

Please also note the supplement to this comment:
https://www.solid-earth-discuss.net/se-2017-25/se-2017-25-RC2-supplement.pdf

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