

Interactive comment on “A review and evaluation of the methodology for digitising 2D fracture networks and topographic lineaments in GIS” by Romesh Palamakumbura et al.

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ms se-2019-184 "A review and evaluation of the methodology for digitising 2D fracture networks and topographic lineaments in GIS" by Palamakumbura et al.

The manuscript presents a review and evaluation of methods for digitising 2D fracture network at scales variable from microns (thin section) to tens of meters (outcrop) up to tens of kilometres (satellite images, DEMs). The manuscript is a technical review of the steps to undertake in acquiring data and of the method of analysis. This topic is of interest for a wide audience because fractures are among the most diffuse geologic structures impacting also everyday life (engineering issues). Few main issues deserve

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more work: 1) In their review of methods for acquiring 2D fracture network images and representation the author do not cite the Structure from Motion (SfM) method that is widely used in acquiring images and DSM (Digital Surface Model) of rock exposures with high accuracy. 2) In the manuscript a more extensive description of pro and cons of various methods of data acquisition apart the "time consuming" parameter really needs. Accuracy of each method, precision as well as resolution should be discussed and possibly summarized in a table. 3) In the described example a comparison between results obtained with different methods will be very useful for assessing reliability of the method proposed. Few minor points are in the annotated pdf of the manuscript. In my opinion, once these issues will be addressed this work could be a reference paper about analysis of fracture networks. Sincerely Francesco Mazzarini

Please also note the supplement to this comment:

<https://www.solid-earth-discuss.net/se-2019-184/se-2019-184-RC3-supplement.pdf>

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2019-184>, 2019.

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