Solid Earth
Discussions

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Interactive
comment

Interactive comment on "On a new robust
workflow for the statistical and spatial analysis of
fracture data collected with scanlines (or the
importance of stationarity)" *by*
Andrea Bistacchi et al.

Anonymous Referee #2

Received and published: 19 July 2020

With this paper, authors want to propose a workflow to analyze organization of fracture
network using scanlines. This paper is an interesting contribution to weight the different
parameters usable to describe a fracture network. This can give in term, an interesting
tool to analysis SL on outcrop. Authors highlight their workflow are not applicable
for fractal network, Classique observed for fracture network, this assumption must be
discussion. To reinforce the demonstration, geological data must be given;

General comments

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[Discussion paper](#)

In the introductive part, several basic and important publications are cited, please add them, see por example the JSG special pub (108) on the topic. A large set of publications deals with the fracture set characterization, could you add them and discuss what is your added value.

You analyze works on 1D from photogrammetry data could you discuss the opportunity to do that in other direction and doing jointed multi-1D analysis?

Line 200 the URL link is locked by a password!! Not usable

First example bed-controlled fractures

Line 275 a view of the outcrop will be helpful Line 275 are data collected automatically are handy made. Fig 4 the thickness of the bed very sharply, why? What is the process to acquire the thickness? What is the error? Lines 283-285 and figure 4 if I agree with your analyze for the 0-56 m section, for the section several break values are observable at 75 and 85 m could you discuss that, and explain why do not you take them into account? Indeed, sections could be described with local spacing correlation, please could you discuss this point? Could you give a stereo-plot of the data? I don't if the data are available, but if you did a Terzaghi correction you may have these data.

Second example fault-controlled fractures

Could you give a view of the outcrop? Could you give a stereo-plot of the data? I don't if the data are available, but if you did a Terzaghi correction you may have these data. And especially for each segment. Are you sure that all the structures are acquired under the same stress field? Here a carefully discussion must develop because this section is a complex interactive structure with the damage zone of two faults probably overlapping, and the change of correlation law could be dependent on the offset of the faults. If I could be agreed with a segmentation of a damage zone, several decrease laws must be tested to valid your hypothesis for the total fracture set. And probably two clusters of fracture are in the sections 1, please discuss a more detailed analysis of

your data, information are here.

What is the representativeness of your curve-fits, what are the residual fractions?

This paper suffers from several form problems and needs careful proofreading

Examples: Line 9 number of the team is not correct Line 31, 98, authors Several ref are forgotten in the bibliography : Borradaile, Caine and Foster, Mitchell and Faulkner, Wasserman, Davis, Ogata, Korbar, Mitteenpergher . . .

Line 285 and others m (it) -> m

On the figures several lines and axis have not legend.

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Interactive comment on Solid Earth Discuss., https://doi.org/10.5194/se-2020-83, 2020.