

Dear Editor, thanks very much for your comments!

Regarding the two points that you ask us to reconsider, I answer here below (adding your points in blue for clarity).

1 - Why you did not distinguished joints from veins ? I fully agree with the R#1 comment. I have some reserves on the fact they are co-genetic. Generally, joints and veins do not form under the same processes and stress conditions. What study or clear element support your conclusion ? I also recommend doing analysis separately.

We finally understood the source of the problem that you rise here. In the original manuscript we kept to a minimum the geological and tectonic description of the outcrops used as case studies, since the goal was to discuss the statistical methods, and not tectonic or structural aspects of these particular fracture sets. Particularly for the second case study, we said very quickly that fractures and veins are cogenetic and that for this reason we consider them altogether in the analysis. Actually, the story is a bit more complicated, as we have now explained at lines 329-334 (in blue in the manuscript pdf):

“Closely-spaced subvertical extensional fractures and veins, striking nearly parallel to the faults, crosscut folded bedding planes and are therefore associated with the last stages of fold tightening, or postdate folding. Extensional fractures, which are generally longer than veins, bear patches of blocky calcite having the same appearance of that cementing the veins. This evidence suggests the hypothesis that fractures and veins were cogenetic and both associated with the activity of strike-slip faults. To test the relations between faults, veins and fractures, here we considered extensional fractures and veins as a unique fracture set.”

In a few words, what appear now as “veins” and “joints” were simply joints during active deformation, then veins were filled by late-stage or post-tectonic calcite, and the larger ones were not completely filled (but they show “bridges” of the same calcite as in veins), hence they still resemble joints. We also have preliminary isotopic data supporting this hypothesis, but we feel it would be too much to discuss them here in this kind of manuscript, that is mainly aimed at discussing statistical methods.

2 - A minor point. Even if Hooker and Katz (2015) reveal that vein probably have little impact on spatial organisation, they are fractures and present, so they can be counted. I do not mean you have to fully discuss this process, but there is no clear reason to exclude this reference. I also think you could refer to other work with respect to the massive bibliography existing in this topic.

We have added the Hooker and Katz (2015) reference at line 57-58 (in blue in the manuscript pdf).

Thank you very much!

With kind regards,

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