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Interactive comment on "Extensional reactivation of the Penninic Frontal Thrust 3 Ma ago as evidenced by U-Pb dating on calcite in fault zone cataclasite" *by* Antonin Bilau et al.

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Thanks to Alfons Berger for his consideration and positive review. We reworked some sentences in order to precise the duality link between High-Durance Fault System and the PFT. However, here, we follow the common understanding of PFT in the western Alps, at the boundary with the Pelvoux Massif. Most authors argue that the HDFS is the expression of the PFT reactivation as a normal structure in Briançonnais zone (following especially, Sue and Tricart, 1999, 2003). So, we don't think this might lead to some confusion between the two. To ensure a good comprehension of the meaning of the two systems PFT/ HDFS, we made efforts to clarify this view as much as possible.

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Detail commentsÂă:

Line 19:add “so called” or introduce somehow the “High Durance extensional fault” OK. Modified.

Line 29/30:This sentence may be to complex for most readers. “Extension is caused by compression, which is propagating...”??? OK, we modified the text for more clarity. "This reactivation may result from the westward propagation of the compressional deformation toward the External Alps, combined to the exhumation of External Crystalline Massifs. In this context, the exhumation of the dated normal faults is linked to the eastward translation of the HDFS seismogenic zone in agreement with the present day seismic activity."

Line 81:You may add “Agard et al. (2002)” Read Added.

Line 83:better see “Rubatto and Hermann (2001)” Read Added.

Line 90:The sentence is misleading. In Simon Labric et al. 2009 there is also whitemica from the PFT itself. OK, corrected. We agree.

Line 96:see also constrains for the deformation history of theBriançonnais and Subbriançonnais in Ceriani and Schmid (2004) and related literature(Ceriani,Bucher etc). Read Added.

Line 113:please add a reference(or a figure). Added, Fig.2.

Line 299: FT ages only record cooling, which require somehowalso erosion at the end. It is difficult to constrain the tectonics out of the FT data, specially if the ages are overlapping ages of both sides of the PFT. We agree with you, FT ages are not direct datings of tectonic motions, and their signal can be misleading in this matter. However, as these were the only data that existed before to constrain PFT extensional motion, and as ages obtaines on both sides of the PFT do not overlap there is a suggestion of PFT activity that is worth mentioning.

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