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Interactive comment on "Microstructures and deformation mechanisms in Opalinus Clay: insights from scaly clay from the Main Fault in the Mont Terri Rock Laboratory (CH)" *by* Ben Laurich et al.

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The manuscript presents a microstructural investigation of scaly clay from Opalinus Clay of the main fault in the Mont Terri underground laboratory.

Overall, the investigations and results are described clearly and in sufficient detail. Particularly the description and interpretation based on more qualitative methods (i.e. interpretation of images obtained by various methods) appears profound and convincing. The derived model of the evolution of scaly clay is comprehensible and quite differentiated.

Regarding the use of quantifying methods (cumulative grain size distribution obtained by sieving; frequency distribution of microlithon cross-sectional area obtained by DIA), the manuscript does not yet get as much as possible out of the data. Some shortcomings in this part of the data analysis require minor revision (but can be corrected easily).

A detailed list of "specific comments" is included in the attached pdf-file.

Please also note the supplement to this comment:
http://www.solid-earth-discuss.net/se-2016-94/se-2016-94-RC2-supplement.pdf

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