

## ***Interactive comment on “Tectonothermal evolution in the core of an arcuate fold and thrust belt: the southeastern sector of the Cantabrian Zone (Variscan belt, NW Spain)” by M. L. Valín et al.***

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RC1: The paper is well written and its content is within the scope of Solid Earth. The figures are necessary for the understanding of the text and its quality is good. However in some of them, due to the amount of information they contain, the font size of the legend is too small (see pdf).

AC: The font size has been increased in Figs. 2, 5, 6, 7 and 8. We have included the small corrections (Figs. 2 and 5) suggested by the referee in the supplement (se-201653- RC1-supplement.pdf).

RC1: The discussion analyzes clearly the results which, combined with extensive infor-

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mation on the chain structure allows to establish relevant conclusions. References are very thorough, and they allow the reader to understand the level of existing knowledge on the structure of the region as well as the techniques used, however sometimes the excessive number of citations obscures the reading of the text.

AC: The number of references has been reduced in the locations indicated by the referee in the supplement (se-201653- RC1-supplement.pdf).

RC1: As a specific comment should be interesting to know the reason why "The hydrothermal post-Variscan episodes probably lasted less than 50 Ma" (lines 207-209).

AC: The sentence in question has been removed because this time interval is not very relevant. It is very probable that the post-Variscan heating episodes lasted less than 50 Ma, but there is not a precise geological limit in order to establish the maximum length of the heating time. In agreement with the Arrhenius curves used for obtaining temperatures from CAI values, a CAI value, for example, of 4 requires a temperature of about 190°C if the heating time is 50 Ma and of about 180°C if the heating time is 200 Ma. In addition, the CAI values are only determined by the heating time in which the temperatures present a value close to the peak. In the present case, the temperatures reached during the post-Variscan events probably involved in general lower temperatures than those reached in the late-Variscan event, in which magmatism and cleavage development are more intense. In any case, the paragraph about this issue has been expanded in order to clarify the point indicated by the referee.

RC1: A listing of technical corrections is included in the pdf.

AC: The technical corrections suggested by the referee have been included in the text. We thank these suggestions that have allowed an improvement of the manuscript. All the corrections have been incorporated in the supplement to this comment.

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/se-2016-53/se-2016-53-AC1-supplement.pdf>

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