Comments on the manuscript:

"Relative chronology in high-grade crystalline terrain of the Eastern Ghats, India: new insights"

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Submitted to *Solid Earth*.

This paper deals with problematic of regional geology on the Eastern Ghats Granulite Belt (India).
The authors provide a synthesis of the main geological factors that characterize high-grade crystalline terrains in the EGGB in terms of field observations, interpretation of fabric rocks, and geochronological dataset (Sm-Nd).
These data are tentatively used to describe the relation between the khondalites and the charnockites in order to constrain the tectono-metamorphic evolution in the EGGB.
The paper aims to provide a new geological scenario for this segment belt mainly based on the insights coming from the presented geochronological dataset.

In my view, this work has major flaws that do not allow its publication as it is.
The paper:

- ✓ does not provide sufficient dataset to sustaining the new proposed scenario;
- ✓ does not clarify in full the regional problematic, elucidating the tectono-metamorphic implications associated to one or another tectonic model;
- ✓ suffers of a chaotic organization of the text and it was difficult to me understand if new geological dataset has been provided or not;
- ✓ lacks of a Discussion paragraph that arguments the new provided implications. The paragraph #3 (Alternative proposal) mixes discussion and presentation of the new scenario;
- ✓ lacks of a tectonic/structural model that is useful to understand the new proposed scenario;
- ✓ seems to focus on the regional tectonics and does not provide insights of broad audience.

I suggest a deep re-thinking in rewriting the manuscript, based on a re-organization of the text and a better illustration of the new dataset, before to re-submit it to *Solid Earth*.

General Comments

Introduction
I suggest to remove the header of the subparagraph #1.1.
The subparagraph #1.1 seems to be not linked to the first paragraph of the Introduction. In particular, the author should better explain why you study the EGGB and how the EGGB can provide insights to resolve the polyphase history of high-grade crystalline terrains. This was what I expected when I read the manuscript title.
All geological information that the author provided here should be moved in a "Geological background" new paragraph. Moreover, I propose to better explain the structural relationships between the different crustal domains or provinces shown in Figure 1. Also, the provided synthesis of the metamorphic characters of the different part of the EGP appears too vague (just speaking about clockwise and counterclockwise P-T-t paths).
I suggest to remove the paragraph concerning the Sm-Nd analyses. This can be shown in an Appendix or at the bottom of the Table 1.

Nature of the problem
This entire paragraph is controversial to me. I really did not understood if authors are making a synthesis of the previous literature or they are illustrating their new dataset (structures and geochronology). I suggest that this paragraph should be a "Geological background".
The paragraph named "Field relation and fabric development" does not illustrate structural elements characterizing the high-grade terrains in EGGB. You should describe at least some evidences for the structural evolution. At this stage, the subparagraph is illusive.

Geochronology
The author mention results from previous work, but also they make discussion about implications. I think this subparagraph (which should be a part of a "Geological background") should not contain considerations/discussions.
More important: the authors speak about TDM (please provide explanation for TDM) ages by Rickers et al (2001) that range between 1.9 and 2.9 Ga. This is the same age interval presented in Table 1 and that I believed was new (as stated in the Introduction). My question is: ages in Table 1 are original or they came from Rickers et al (2001)?

Alternative proposal
As stated above, this paragraph is a mix: in the first part, the authors present their structural and poetrographical dataset (Figs. 2-4); in the second part, they discuss previous proposed tectono-metanmorphic models, and in the third part, they introduce the alternative scenario. In my opinion, this should be made in three different paragraphs.
Moreover, Figures 2 to 4 are not sufficiently described, neither in the text nor in the figure captions.

An important flaw of this manuscript is the lack of a figure illustrating the new proposed scenario. It is difficult to follow the tectonic implications without a figure. Moreover, a figure should be important to outline general processes characterising the tectono-metamorphic evolution of high-grade crystalline terrains as a whole. This may help to give a broad audience to the manuscript that, in this version, results too regional.

Specific Comments

Figures
Figure 1: it is not informative. Please illustrate at least the lithologies of the different provinces. In at least one square put the P and T symbols with their unit of measurement.
Figures 2-3: line-drawings of the pictures may help to understand the relationships between mafic granulites and charnockites/khondalites.

Table
The geographic coordinates of the samples should be put in the Table.

References
Sen et al (1995) is not in the References List
Bhui et al (2007) is not in the References List
Rey and Galotti (2008) is listed as Jacques Rey and Simone Galotti. Please rewrite.

I hope that these comments and suggestions can improve the scientific quality of the present manuscript.

Sincerely,
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