

## ***Interactive comment on “The Ulakhan fault surface rupture and the seismicity of the Okhotsk-North America plate boundary” by David Hindle et al.***

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In my opinion, the appearance of an article that considers the issues of one of the largest shear faults in the North-East of Russia, after the almost complete cessation of scientific publications on the fault tectonics of this sparsely populated and poorly studied area associated with a deep social and scientific crisis in Russia, is very timely and relevant. Despite the fact that the Ulakhan fault is a seismically active structure associated with the fact that it is a granule of the North American and Okhotsk lithospheric plates, the study of its structural and neotectonic features leaves much to be desired, although its fame as a large fault that controls the development of different complexes of stratigraphic ranges, is known from the materials of geological survey since the early 50s of the 20th century. the article is read with great interest, it provides absolutely new

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data on determining the age of activation of movements on the fault calculated by different methods. And this should be considered a serious justification for determining the activity of the Ulakhan fault, however, as well as the neotectonic and geomorphological observations in the article on the values of the same type of left-side shear displacements of small watercourses found by the authors in the Omulev block. The article is well illustrated by different schemes and tables, as well as pictures-schemes of displacements of the separate parts of the fault along the boundary of these plates. The text of the article is carefully edited and provided with all necessary reference material in the form of links to publications. I have no comments to the article and I believe that the publication of such an article will greatly fill the understanding of the process of seismotectonic destruction and development of the largest shift zones of the world, which of course applies to the Ulakhan fault. At the end of my brief summary, I would like to cite those response points that are found in the recommendations of the journal Solid Earth. The manuscript represents a substantial contribution to scientific progress within the scope of Solid Earth and

the scientific approach and applied methods valid the scientific results and conclusions presented in a clear, concise, and well-structured way, Include number and quality of figures/tables 1. the paper address relevant scientific questions within the scope of SE 2. the paper present novel concepts, ideas 3. substantial conclusions reached 4. the scientific methods and assumptions valid and clearly outlined 5. the results sufficient to support the interpretations and conclusions 6. the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results) 7. the authors give proper credit to related work and clearly indicate their own new/original contribution 8. the title clearly reflect the contents of the paper 9. the abstract provide a concise and complete summary 10. the overall presentation well structured and clear 11. the language fluent and precise 12. mathematical formulae, symbols, abbreviations, and units correctly defined and used 13. any parts of the paper (text, formulae, figures, tables) be clarified 14. the number and quality of references appropriate 15. the amount and quality of supplementary

material appropriate Peer-review completion (SE)

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