

4<sup>th</sup> World Congress on

# CLIMATE CHANGE AND GLOBAL WARMING

August 06-07, 2018 Osaka, Japan



## Vladimir Babeshko

*Russian Academy of Sciences, Russia*

### Influence of the seismicity on the climate change

The problem of prediction of the recently established new type of earthquakes called starting earthquakes is discussed. These arise in the Earth's crust at the moment of contact of lithospheric plates. The origin of the starting earthquakes is associated with concentration of contact stresses below them. The problem is considered under the assumption that the lithospheric plates and the below layered substrates are linearly elastic. The layered bases are modeled by three-dimensional bodies, while the lithospheric plates are modeled by Kirchhoff plates. The report addresses the stress concentration under the plates for different mutual positions when they approach each other with their ends. Both cases of distant plates and contacted plates are considered. The report demonstrates that the obtained result cannot be obtained by a finite element method and other numerical methods based on the energy integral. The topological method of the block element elaborated in this paper differs from the earlier approaches by the present authors. In the earlier works the local coordinate systems were introduced which complicates in understanding the results. The present report proposes a unified coordinate system which makes the approach applicable to other problems. This approach also reveals a singular concentration of contact stresses which coincides with the previously obtained singularity however the present result is more transparent. This result allows us to discuss the approach enabling prediction of location, time and intensity of earthquake, as well as the conditions that ensure the realization of prognostication. The influences of the seismicity and earthquakes on the climate change are discussed in the report.

### Biography

Vladimir Babeshko has completed his PhD (Doctor of Mechanics) from Russian Academy of Sciences, Russia. He is a Chief of Scientific-Research Center for Forecasting and Preventing Geoeological and Technogenic Disasters, Kuban State University and Southern Research Center, Russian Academy of Sciences. He has 20 patents, published 7 monographs and more than 450 papers in reputed journals to his credit.

[babeshko41@mail.ru](mailto:babeshko41@mail.ru)