

Interactive comment on “Earth’s rotation variations and earthquakes 2010–2011” by L. Ostřihanský

Anonymous Referee #1

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This manuscript only shows the correlation between two observations, velocity changes earth rotation and the triggering of Earthquakes it does not prove what the author states in the conclusions:

“Triggering of earthquakes by the Earth’s rotation variations is unequivocally proven by histograms showing an increment number of earthquakes during Earth’s rotation maximums and minimums. Earthquakes are therefore triggered by both the Earth’s rotation⁵ deceleration and acceleration.”

It develops an elaborate speculation on the correlation. The manuscript is not novel. The statistical data is not new. There are no new approaches and/or methods, described in the manuscript. The ideas proposed aren’t new either.

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The manuscript aims to make a case to support the idea that the Earthquakes are triggered by the changes in the rotation velocity of the Earth. It is revisiting a controversy on the role that variations in the Earth's rotation velocity play in the generation of Earthquakes. However, in the way the manuscript is written it is difficult to understand and reach this conclusion. The manuscript is very difficult to understand. It is not written in comprehensible English. It requires a lot of work in the language by a native English speaker to make it comprehensible. Nevertheless, as it does not present new ideas, the data is not new, and in my opinion the reasoning is not scientifically sound it should be rejected in its present form.

The manuscript aims to discuss the correlation between the changes in the velocity of the Earth's rotation (using the measurements of the length of the day) and the timing of major earthquakes (by the way this is not clearly stated). The variations of the Earth rotation have been attributed by other authors to the effects of the gravity attraction of the moon. Mainly to the effects of the tides.

Statistical analysis of both data sets (the manuscript's approach) can only reveals correlations between them. To make a case the manuscript should carefully address the physics of the problem estimating for example the stress fields, the stress resulting from the tides (due to the moon). There are a few manuscripts indicating possible approaches (Ranalli, 2000; Corchan et al. 2004; Scoppola et al., 2005).

The manuscript lacks a rigorous analysis of the physics of the phenomena. This is specially evident in the conclusions section. In detail this section should summarize the analytical results.

Interactive comment on Solid Earth Discuss., 4, 33, 2012.

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