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Annales Geophysicae Discussions

Interactive comment on "Phenomena preceding major earthquakes interconnected through a physical model" *by* Panayiotis A. Varotsos et al.

Anonymous Referee #1

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This paper treated with a number of precursory phenomena before the Tohoku M9 earthquake, systematically. The authors divided observed precursors into two categories which correspond to two different physical stages. It is very interesting.

In the beginning, the word "order parameter" suddenly appeared. As far as the reviewer's knowledge, "order parameter" is a common word for a physicist, but not for a seismologist. It means that the authors are considering earthquake is a kind of the phase transition process. It is better to explain a little bit more. Because, in the future, seismologists' understanding becomes very important in this approach.

In any case, the sentences are redundant. Can you shorten the text more? The reviewer feels that expression is old-fashioned. More simple wording would be better.

Minor comments: P2 L26 5 1/2 is too precise. Say 6months is OK?

P8 L10 the initiation of the anomalous Earth's magnetic field variations and the minimum βmin of the fluctuations of the order parameter of seismicity. <- β varies case by case. You cannot say the exact date of January 5. The expression is too strong.

P9 L26 Anomalous magnetic field variations started (which reflects the initiation of a strong SES activity). -> In the case of Tohoku M9EQ, no electric field observation. The expression is too strong.

In figure 3: Pale colors are not easy to read. Please change some colors.

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