

## ***Interactive comment on “Electromagnetic characteristics of ENSO” by Johannes Petereit et al.***

### **Anonymous Referee #2**

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The authors present results of 3-D EM modelling aiming to estimate variability of semi-diurnal lunar (M2) tidal radial magnetic field signals due to ENSO. By the way, authors did not specify in the paper an observation level at which these results are obtained but I presume that it is a satellite (430? km) altitude. As expected, the signature appeared to be super tiny (fractions of picoteslas), and I am very doubtful that one will be able to detect these signal from satellite data even in the far future. The main reason is that satellites measure a mixture of signals from different sources and there is no any chance to separate the signals with such level of accuracy. However I think the paper could be published if the authors will moderate their claims, for example, stating that it is just "in silico" study which most probably is not of practical use. My other comments are summarized below.

C1

1. Page 1: 3D induction model -> 3D EM induction solver;
2. Page 2: Sentence about finding of Manoj et al (2006) about ENSO and ACC. Please elaborate, it reads weird;
3. Page 3: theta is co-latitude?
4. Page 4: the induction model -> 3D EM induction solver;
5. Page 4: Please update the next sentence. "The solver is based on a contracting volume integral equation approach (Pankratov et al., 1995; Singer and Fainberg, 1995).

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C2