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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Pre-earthquake magnetic pulses" *by* J. Scoville et al.

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"Anonymous Referee #1" seems to be saying that the observations should not be believed, evidently not trusting the validity of records of pre-earthquake magnetic pulses, and therefore saying that the entire paper should be rejected. As Scoville notes, this observational study is left to another paper, but from what I have seen of the pulse studies, I find those investigations and preliminary results highly credible. Be that as it may, the present paper uses techniques based on the most fundamental physical principles, e.g. Maxwell's equations, and those techniques were demonstrated in phenomenological studies of gravity and free oscillations more than 50 years ago (e.g. Takeuchi et al. (1964), Derr (1969)).* Scoville et al. are saying, in essence, that when there are magnetic pulses, Maxwell requires there to be currents that produced them. Scoville's "Phenomenology" reply above answers this criticism most eloquently, and

there's nothing more I can add to this aspect of the discussion.

"Anonymous Referee #1" also comments on the inadequacy of the review process, citing a paper that Nature had to withdraw. (That example is irrelevant to this discussion because Nature discovered that the paper was fraudulent.) Apparently unintentionally, Referee's comments reflect some of the very inadequacies he cites. If those comments are the entire review, this Referee seems not to understand the substance of the paper and leaves it to others to do the difficult work of checking details. As the former head of a USGS scientific publishing unit, I would advise the editor to seek another review and discount this reviewer's inadequate, superficial, and seemingly prejudiced remarks. I would also hope that this discussion could be entirely open. Referee should have submitted these remarks under his/her name, without noting that they were those of a designated referee. Unfortunately, this revelation cannot be undone now.

*References:

Derr, J., Internal structure of the earth inferred from free oscillations, J. Geophys. Res., 74, 5202, 1969.

Takeuchi, H., J. Dorman, and M. Saito, Partial derivatives of surface wave phase velocity with respect to physical parameter changes within the earth, J. Geophys. Res., 69, 3429, 1964.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 7367, 2014.