EMWoG Telephone Conference Call
Tuesday August 8, 2006, 2.00-2.50 pm EDT
Minutes and Action Items

Present: Phil Wannamaker (Chair), Gary Egbert, Rob Evans, Shane Ingate, Dean Livelybrooks, Kevin Mickus (quorum achieved).
Apologies: Steve Park, Adam Schultz, Martyn Unsworth

Minutes from June 15 telecon were not approved pending full concurrence by EMWoG.

Backbone Update
Ingate reports that Schultz requires approval by NSF of his Independent Research Plan (IPR) before any further work can continue. Schultz has suggested the following permitting and construction schedule which has been delayed because of his move to NSF in the Washington DC area:

Early October 06	NM construction
Late October 06	OR construction
Late December 06	OH permitting
Late January 07	WI permitting
Late February 07	OH construction
March 07	WI construction, ME permitting
June 07	ME construction

Once his IPR has been approved, a zero-cost change-order to adjust the Backbone milestones will be developed.

Oregon Pilot Project
Livelybrooks reports that the training and first installation (ORI005) with Parks and GSY-USA team took place at Bend, on 3-4 August. The 4th station will be installed August 8. 6 permits are in hand. The crew appears highly experienced. The use of the HP200 to set-up the NIMS is problematic and a concern, though GSY seem comfortable with it. Electrodes are installed in "German Hosiery" the short-term equivalent of the Russian Buckets.

After a site has been installed, the contractors are free to decide whether to wait 2 hours to collect data for checking system configuration, or return to the site the next day. Group would prefer the latter, but this will depend upon the contractor's traveling logistics.

Egbert expressed his concern of the CF card problem Schultz observed at Soap Creek tests (card needs to be initialized after every run else a silent concatenation occurs). Livelybrooks will ensure that the crew is aware of the correct procedure to prevent a repeat.

Ingate will make available to EMWoG a website with the siting materials provided by GSY.

Equipment
There was much discussion on the email exchange with Narod concerning his efforts to minimize noise on the annealed Magnetics material, currently at 16-18pT. Narod is clearly focused on the material efforts, and informed Ingate that the best that can be hoped for the Vacumschmeltz GMBH VitroVac VAC6025 and Metglas 2714A materials is 20pT, but that 16-18pT is attainable with the annealed Magnetics permalloy.

Egbert provided analysis of the Soap Creek tests, indicating that:
- There is no identifiable differences between the NaCl and KCl chemistries;
- At 10 sec periods the difference was around 10dB, but converge at longer periods.

This indicates that the 16-18pT levels of the current cores of Narod are adequate for EarthScope studies.

Group unanimously agreed with this conclusion, and believe that this is the best that can be expected of fluxgate designs viz. ring-cores, and advised Ingate to urge Narod to complete the EarthScope procurement with the existing material. Ingate will first check with EMWoG members who did not make this telecon for concurrence before speaking with Narod. Narod will also be encouraged to complete the repackaging of Schultz' Infonetics cores.

Given the uncertainty of Narod's response, Group also discussed "Plan B", an option to reconsider the tests during the EarthScope procurement competition. Given that the Quantec/Reftec system integration problem has been solved, an additional test of this system and the Phoenix could be conducted. Ingate will request that the data from recent Quantec testing of the Billingsly cores at Battle Mountain, NV, will be made available to EMWoG for analysis. With Quantec's busy Summer schedule, it is unlikely that such a test could take place in the next 2 months.

Egbert states that changing data loggers, and hence data format, will have cost/scheduling repercussions on data analysis. The current system is constructed around the NIMS format, and would have to be changed if another system is used. Although the Reftek data loggers write miniSEED, considerable effort would be required to retool existing software to deal with the change in metadata information.

Miscellaneous
Wannamaker has been invited to represent EMWoG at the USAAC telecon to be held on Sept 14. If this conflicts with IAGA, then Wannamaker will identify an alternate.

Upcoming meetings
- USAAC telecon, Sep 15
- IAGA 18th Electromagnetic Induction Workshop, Sep 17-23, Catalonia, Spain.
- IRIS CoCom/BoD, 16-18 Oct, San Diego, CA.
- IAGA International Workshop on Electromagnetic Studies related to Earthquakes and Volcanoes. 20-22 Nov, Agra, India.
- Fall AGU, 11-15 Dec, San Francisco, CA.

Next telecon
Group agreed Jul 13 to a regular monthly schedule of meetings, occurring on **the second Tuesday of each month**. Each meeting will take place 2-3pm eastern time. The future schedule is:

- 12 Sep (Park, Evans, Mickus advance apologies)
- 10 Oct (Mickus advance apologies)
- 14 Nov
- 12 Dec (morning/afternoon face-to-face meeting at AGU?)

Attachment:

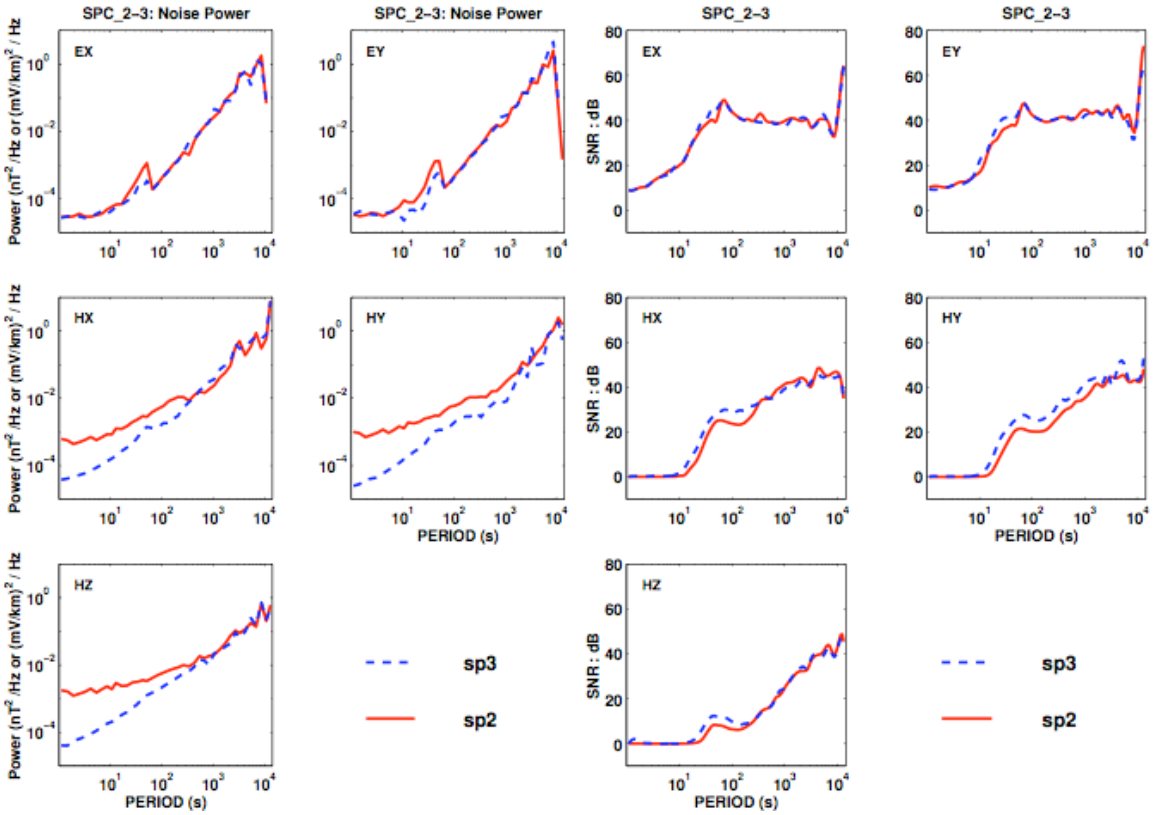
From: egbert@coas.oregonstate.edu
Subject: Re: Fwd: Magnetics rings, batch-3
Date: August 8, 2006 1:30:40 PM EDT
To: adam@coas.oregonstate.edu, revans@whoi.edu, dlivelyb@hendrix2.uoregon.edu, pewanna@egi.utah.edu, klm983f@MissouriState.edu, skpark@ucr.edu, egbert@coas.oregonstate.edu, unsworth@phys.ualberta.ca, Shane.Ingate@iris.edu

Shane et al.,

Some figures to refer to in our discussion today; from the Soap creek test with two systems side-by-side, different electrode chemistry.

As a preview: these plots suggest that the sorts of noise issues Barry fusses about are mostly of no consequence to anything but his pride. There is a VERY serious problem with either the magnetometer (or more likely) the AD converter in one of the NIMS used for this test. Nonetheless, consequences for the quality of the estimated responses for periods longer than 10 s are essentially nil; this is because the signal spectrum increases so steeply beyond 10 s. I would be more worried about the noise in the mag channels at sp2 here ... and this noise is *completely* coherent between all three mag channels, so has nothing to do with ring core noise!

Gary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Power (nT²/Hz or (mV/km)²/Hz
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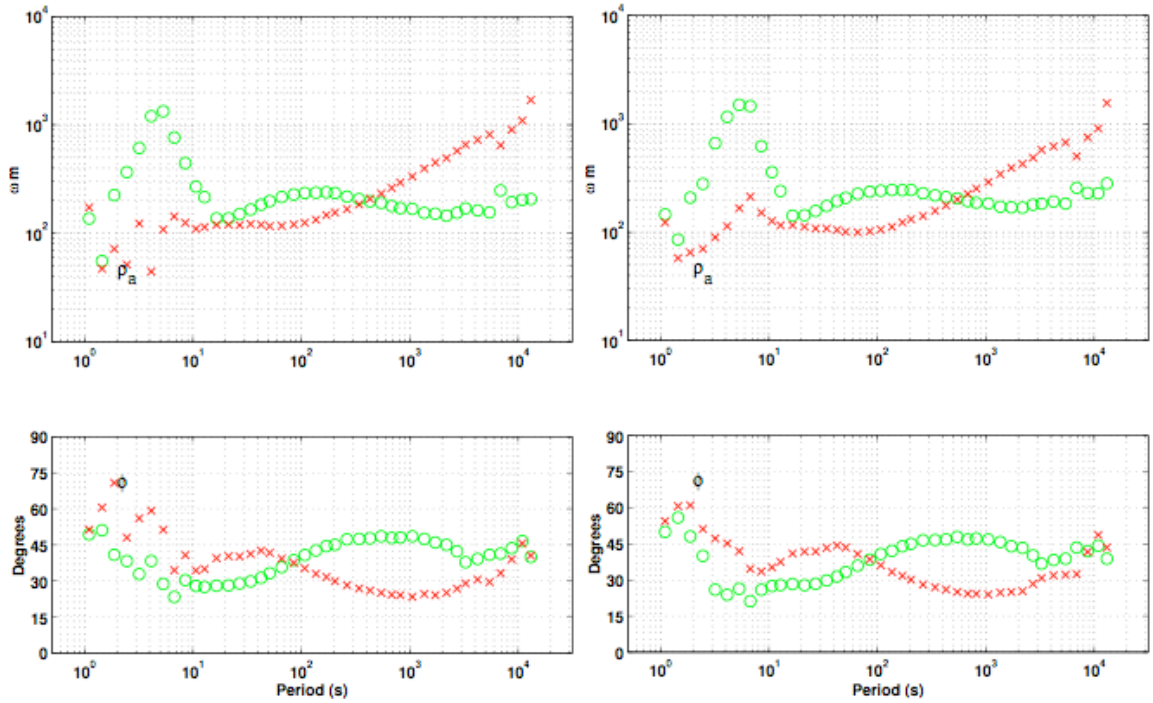
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