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Bench Test Review Checklist

Please note that the document format has been optimized for Adobe Acrobat Reader

Conducted by: _____ Date: _____

Reviewed by: _____ Date: _____

Instrument Type: _____ SN: _____ Data File: _____

Notes: _____

Bench Test Instructions:

1. Ensure that test probes are installed on the instrument.
2. Rest the instrument horizontally on a table or bench, preferably on something soft (e.g. open cell foam), with the pressure port/magnet centered and facing up.
3. Collect a minimum 60s data file and transfer to your computer, minimizing vibrations and shocks.
4. Generate figures using Zissou Essentials or the ODAS Matlab Library.

Please refer to your instrument user manual for further details on performing a bench test.

Are there any known factors that could affect the quality of the bench test? E.g. located at the top of a tall urban building, on a ship at sea, excessive electronic noise in the lab, people moving near the instrument?

Time Series Figure

- ☐ Ax and Ay counts are typically within ±500 counts. *Range:* _____
  - ☐ Are there any large spikes in Ax or Ay? _____
- ☐ Ax and Ay are similar to each other, with Ax typically larger than Ay.
- ☐ Incl_T is at a reasonable, constant value (i.e. near room temperature). *Value:* _____
- ☐ Incl_Y and Incl_X are at reasonable, constant values (based on instrument orientation). *Values:* _____
- ☐ T1_dT1 and T2_dT2 counts are typically within ±40 counts. *Range:* _____
- ☐ T1_dT1 and T2_dT2 offset values are less than 100 counts (specified in figure legend). *Values:* _____
- ☐ sh1 and sh2 counts have a mean of less than 10 counts. *Mean:* _____
- ☐ sh1 and sh2 counts are typically within ±30 counts. *Range:* _____
- ☐ P counts are typically within ±2 counts. *Range:* _____
- ☐ P_dP counts are typically within ±10 counts and seemingly random (i.e. no spikes or patterns at regular intervals). *Range:* _____
- ☐ (If applicable) The C1_dC1 counts are typically within ±50 counts. *Range:* _____
- ☐ (If applicable) The C1_dC1 offset value is less than 6000 counts (specified in figure legend). *Value:* _____

Notes:

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Spectra Figure

- ☐ P_dP shows a spectral density everywhere less than 10^1 counts^2/Hz.
- ☐ The peak of P_dP is less than 3 counts^2/Hz, and rolls off at approximately 2 Hz.
- ☐ The spectral peaks of Ax and Ay are below 10^2 counts^2/Hz, provided the instrument is well cushioned.
- ☐ Ax and Ay are similar to each other.
- ☐ T1 and T2 are similar to each other.
- ☐ T1 and T2 follow rising curves with spectral density of approximately 10^{-1} counts^2/Hz near 10^2 Hz.
- ☐ sh1 and sh2 are similar to each other.
- ☐ sh1 and sh2 follow rising curves with spectral density of approximately 10^{-2} counts^2/Hz near 10^2 Hz.
- ☐ (If applicable) C1 follows a rising curve with spectral density of approximately 10^0 counts^2/Hz near 10^2 Hz.

Please note that the spectra are expected to follow smooth curves,[*] however, narrow band spikes may be visible due to explainable sources, such as: AC electrical field (50 or 60 Hz), EM sensor (15 Hz), and corresponding resonant frequencies. Broad band noise, particularly occurring in only one channel, should be investigated. Please note the presence of any spikes in the Notes below.

Notes:

[*] Refer to the ASTP Calibration Report for reference.

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(If applicable) CT/CLTU Time Series Figure

- ☐ JAC_T counts are typically within ±50 counts. *Range:* _____
- ☐ JAC_C_I counts are typically within ±5 counts. *Range:* _____
- ☐ JAC_C_V counts are on the order of 10^4 and have a typical range within ±100 counts. *Range:* _____
- ☐ Turbidity counts are typically within ±50 counts. *Range:* _____
- ☐ Chlorophyll counts are typically within ±400 counts. *Range:* _____

Optional Test: To test for a signal response in the CT and/or CLTU sensors, blow on the temperature sensor and pass a fluorescent object in front of the CLTU sensors. Please note observed responses (i.e. changes in the signal) below.

- ☐ A response is observed after blowing on the temperature sensor.
  Response: _____
- ☐ A response is observed after passing a fluorescent object in front of the turbidity sensor.
  Response: _____
- ☐ A response is observed after passing a fluorescent object in front of the chlorophyll sensor.
  Response: _____

Notes:

(If applicable) EM Current Meter Figure

- ☐ The EMC_Cur (upper plot) signal appears to be of uniform amplitude over the entire dataset. Note: the middle plot shows the first second of this signal.
- ☐ The EMC_Cur (middle plot) signal shows a consistent 15 Hz pattern (i.e. 15 peaks visible over the 1 second interval).
- ☐ Narrow band spikes are visible at 15 Hz intervals (bottom plot). The first spike should occur at 15 Hz, and every second spike will be smaller than the previous one.

Notes:

(If applicable) U_EM Sensor Figure

- ☐ U_EM counts are typically within ±2000 counts *Range:* _____
- ☐ In the spectrum, peaks are visible at 10 Hz intervals. The first peaks should occur at approximately 10 Hz.

Notes: