

Point-by-point replies to the comments of Referee

Your comments impress us a lot. We really appreciate your time and energy for reviewing our manuscript. It is hard for us to express our grateful feeling. In fact, we have learned many things during this revision process, and such experience would be very helpful for our future study.

We herewith provide our response to your comments as below:

1. The seismic test system has used ARM the master controller, why use the FPGA module ?

Our response:

As mentioned in section 2.2 of the text: ①Control of scheduling and execution of all time-related tasks;②Acquisition and control of voltage, current, temperature, and other sensor data; ③Acquisition system control and data buffering;④Wired data communication; ⑤Decoding and time synchronization of GPS information.

2. Line68, mentioned that the differential signal from the detector is converted into a single-ended signal through the amplifier, and then the single-ended signal is converted into a differential signal and converted into a differential signal input to the analog-to-digital conversion chip, why?

Our response:

The front-end signal collected by the acquisition station is a microvolt millivolt signal. Amplification is a process that must pass. However, the amplifier chip we selected is a program-controlled amplifier. The input of the chip is a differential signal, and the output is a single-ended signal. So go through this process.

3. Chapter 4 mentions the connection between the central station and each relay, issuing commands and real-time data recovery. The data collected here means that all data collected by the collection station is transmitted by wireless.

Our response:

No, the data here is only the real-time data of the collection station, which is transmitted to the central station for real-time display to ensure the normal operation of the collection station.

4. In the conclusion of Section 5.1, the "equivalent error" is $0.51\mu\text{V}$, which should be "equivalent input noise" and the expression is incorrect.

Our response:

Thank you for your suggestion, here is the statement that something went wrong.