We truly appreciate the time and energy you dedicated in carefully reviewing our manuscript.

Your comments were highly helpful. We really appreciate your attention and comments on our manuscript. Our replies are listed as follows:

1. The paper mainly discusses the software, while Section 2.1 introduces the hardware platform. Is the software running on a self-developed hardware platform or a commercially available magnetometer? If it is a self-developed hardware platform, what is its acquisition structure? What are its sensitivity and dynamic range?

   Response 1: The software operates on a self-developed hardware platform. Its acquisition system is designed with an optically pumped probe, a fluxgate probe, a magnetic signal processor, and a high-depth pressure hull. It achieves a system sensitivity of ≤ 0.5 nT, supports a sampling rate of 10 Hz, and offers a dynamic range spanning from 12,165.10 nT to 137,992.85 nT.

2. Please translate the text in the lower right corner of Figure 11 into English.

   Response 2: We have revised Figure 11.

3. Ensure proper capitalization in Figures 3 and 6.

   Response 3: We have modified Figures 3 and 6 according to your comment.

4. In Table 1, correct the capitalization of "NET communication Interface" and check other tables for similar issues.

   Response 4: We have modified Table 1 and checked other tables according to your comment.