Dear IGS PPP-AR WG,

On November 14, 2023, members of the PPP-AR WG had a virtual meeting. This meeting aimed to review the recent progress of the PPP-AR WG and introduce a new charter with new research objectives for the upcoming years. The meeting also discussed some technical issues related to the quality, consistency, and compatibility of current PPP-AR products from IGS ACs.

Here are the main takeaways from the meeting:

1. All members reviewed the new charter which would be submitted to the IGS GB for official approval.

2. The webpages presenting the results of satellite phase clock/bias combination were reviewed and received support from all members. The purpose of this page is to encourage more ACs to provide phase bias products and improve their product quality based on the feedback from the combination.

3. It is necessary to upgrade the MGEX products into OPS products. These MGEX products should follow the IGS standards and maintain consistency with the IGS reference frame.

4. GRG rapid bias products in Bias-SINEX format will be provided in the following weeks. This issue of suboptimal narrow-lane ambiguity fixing rates and positioning performance for GFZ rapid MGEX products will be addressed in the coming days. DCBs in CODE' MGEX products will no longer be constrained to zero since GPS week 2287.

5. The disconnection between Galileo C/Q and X/X channels and its impact are recognized. Both strategies, whether ensuring the same phase biases or not on these two channels, are deemed acceptable.

6. It was suggested to reduce the number of decimal digits for each quaternion from 16 to 7 in the ORBEX products, as it could reduce the file size by 1/3 or more. The maximum error caused by 7 decimal digits was less than 0.001 mm for all GPS/GLONASS/Galileo/BDS satellite PCOs listed in the IGS ANTEX file.