

Research on Application of RTPPP for the Hydrographic Surveying in Vietnam

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SUMMARY

At present, the real-time kinematic relative positioning techniques such as DGPS and RTK are being used widely for hydrographic surveying in order to determine the horizontal position of river/sea bottom points. Limitations of the relative positioning method require at least two GNSS receivers working at the same time and its accuracy depends on baseline length. On the other hand, the standard absolute positioning method requires one only GNSS receiver, but it provides low accuracy. Since the RTS service provides real-time corrections of the GNSS satellites orbit and clock, the RTPPP technique has appeared, which improved significantly real-time positioning accuracy. This opens up the possibility of applying RTPPP to the hydrography. We have tested the RTPPP technique at a section of Saigon River, Ho Chi Minh City, Vietnam, and compared the results with RTK technique. The results show that the accuracy of the RTPPP in East and North components are 0.26m and 0.17m respectively. This accuracy shows that the RTPPP technique meets the requirement for the hydrographic surveying at a scale of 1:1000.