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Visualization of Flow Simulation Based on AR Using GNSS Data

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The visualization method for flow simulation based on Augmented Reality (AR) and Virtual Reality (VR) are becoming more powerful and popular tool for planning and design of various construction projects in accordance with the development of AR and VR technology. Focusing on AR, the AR visualization method using smartphone is attracting attention from the viewpoint of usability. The present authors have been presented a AR visualization system based on markerless augmented reality for water environmental flow problems [1]. In this system, a landscape image is used as a marker. However, this method has a problem in the stability of superimposition of CG image.

Recently, the AR using the data obtained Global Navigation Satellite System (GNSS) has been attraction attention due to the improvement of accuracy of GPS. In addition, the use of GNSS data in AR visualization has the advantage that it is not affected by the presence or absence of feature points acquired from cameras or the setting of marker locations used in marker superimposition.

This paper presents an AR visualization system for flow simulation based on AR using GNSS data. The target of visualization deals with the flow of river and sea. The present system is applied to several visualization examples to demonstrate the validity and effectiveness of the system.

REFERENCES

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