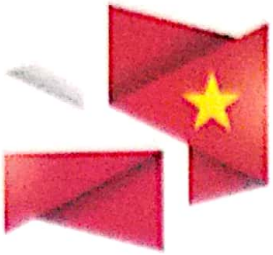

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Research on Technical Solution to Develop Monitoring System for Displacement and Deformation of High Rise Building in Real Time using GNSS/CORS Technology

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abstract

This article presents a technical solution for monitoring for displacement and deformation in real-time based on GNSS / CORS technology. The components and principles of operation of the monitoring system for displacement and deformation have been designed and establish. The continuously operation reference station (CORS) was used to correct position for monitoring station in the RTCM format. A device for receiving and transmitting data from the monitoring station to the server has been designed and developed. NMEA messages have been decoded and filtered through three steps using home-made software that improves the accuracy of the monitoring results. The results show that the developed equipment system can monitor horizontally displacement to 3 mm and vertical displacement to 5 mm.

Keywords: continuously monitoring, displacement; deformation, global navigation satellite system, continuously operating reference station GNSS, real time

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