The Precise Underwater Monitoring Method for the Stability of Inshore seabed

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Abstract: Due to the effect of geological structures, tide and tidal currents, the stability of inshore seabed is always a problem especially for the large engineering construction projects such as inshore wharf, nuclear power station, etc. Underwater deformation monitoring has its special value relative to onshore monitoring. In the traditional method for monitoring seabed stability, it is difficult to acquire centimeter level accuracy, especially in vertical direction. This paper presents a precise method for monitoring seabed stability. Several techniques are integrated in this method, such as GPS RTK/PPK, precise sounding, inertial navigation, attitude correction and quality control. The study has proved that this method can provide 7-centimeter accuracy, and can be really used for precise seabed monitoring.

Keywords: RTK, sounding, attitude correction, correction of time latency