

Precise measurement of river cross-section using photogrammetry for discharge observation

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River discharge data can be calculated by multiplying river cross-section area and flow rate. As gaining precise river cross-section area is difficult, river discharge data often include some errors. Photogrammetry is a method to gain a precise shape of objects but it was hard for non-expert to master. Thank to the improved technology of digital photo, computer and computer software, we non-expert nowadays have chance to apply this technology to multiple fields. In this study, I used photogrammetry technology to acquire river cross-section data at Kosakuragawa River, foot of Mt. Tsukuba. The data matched with the data I gained with tape measure. By using photogrammetry, it is expected that we could gain much precise river cross-section data as we could gain continuous data of riverbed. When the light condition and water clarity is fine, we could apply this method and improve accuracy of discharge data.

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