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The Relationship of Hydraulic Cross-Section Characteristics and River Morphology

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ABSTRACT　　　Channel width, hydraulic depth, mean velocity, discharge and cross section are the basic parameters to understand the type of river morphology in river planning and controlling. This research collected hydrology and geography data from the hydrologic stations and cross sections of the Lan-Yang River. These data can estimate the hydraulic geometry exponents and analysis their variations with different discharge through channel width, depth and mean velocity. According to the triangular coordinate system plotted by hydraulic geometry exponents, we can distinguish the stream type and the cross sectional characteristics with increasing discharge. The river could be divided into several sections which possess their hydraulic parameters in bankfull discharge based on the river regime. The preliminary results yielded the evolution of river morphology along stream longitudinal axis through this research. The results can offer some suggestions for engineers as a reference.

Key Words:　river morphology, hydraulic geometry exponents, triangular coordinate system.

(Schumm, 1977)　　　　　(Chang, 1979)　　　　(Fredsoe, 1978)　　　(
, 1998)　　(Begin, 1981)

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