



Wuhan Tianxingzhou Bridge over the Yangtze River—A great salute to the first crossing of the yangtze river in fifty years

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Abstract :

The Tianxingzhou Yangtze River Bridge is an important fixed link across the Yangtze River in Wuhan for both the city's highway network and the high speed railway line from Guangzhou to Wuhan. Its main bridge is a double-deck cable-stayed bridge with main span of 504m, carrying four rail tracks on the lower deck and six road lanes on the upper. The paper describes some of its main features and key technologies that has been successfully studied and adopted on the bridge including structural system, a cable-stayed bridge with three cable planes and three truss planes as well as the choice of foundation type, foundation construction features and the erection of bridge by truss segments, which is first time used in the country for a truss bridge.

Keywords: Cable-stayed bridge with three cable planes, Structure with three truss planes, Structural system, Truss segmental erection, Locating technique with anchoring piers

1. Introduction

The first bridge across the Yangtze River, the Wuhan Yangtze River Bridge, was built in 1957. This double-deck structure carries four lanes of automobile traffic on upper deck and two railway lines on lower deck. Fifty years later, the Wuhan Tianxingzhou Yangtze River Bridge, another long span double-deck combined rail and highway bridge, is under construction some 16.3 km downstream of its predecessor. The new bridge is intended to provide a fixed link across the Yangtze River for the city's third ring road and the passenger - dedicated high speed railway line from Beijing to Guangzhou . Fig.1

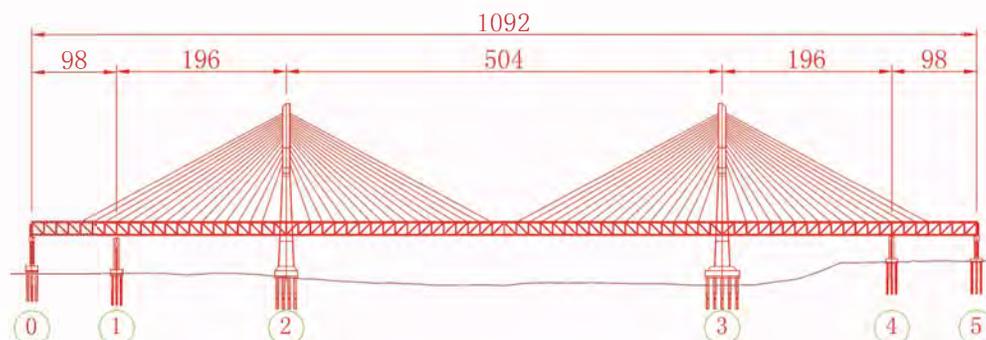


Fig. 1 Elevation of Main Bridge