Research and Application of BIM Technology in Structural Engineering of the Ultra-Large Planar Terminal Building at Beijing New Airport (Post-print)

Authors: Zhang Kejia, Yan Wei

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Abstract

The Beijing New Airport Terminal and Passenger Transfer Center Project is located between Daxing District, Beijing, and Langfang City, Hebei Province. Its core area construction area is approximately 600,000 m². Upon completion, it will form the Beijing-Tianjin-Hebei airport cluster together with the existing Capital Airport, Tianjin Binhai Airport, and Shijiazhuang Zhengding Airport in Hebei, accelerating the integration of transportation in the Beijing-Tianjin-Hebei region. This national key construction project is characterized by an extra-large and long-span structure, large-span steel connecting bridges in the central area, complex isolation system nodes, diverse steel structure support forms, significant shape variations in the roof steel grid, and complex mechanical and electrical systems, as well as numerous project participants and considerable construction management challenges. In terms of BIM technology application, the project focuses on integrating BIM with construction technology, information technology, and project management to scientifically and efficiently address construction challenges and improve management efficiency, thereby establishing itself as a typical case for the development of BIM technology towards smart construction.

Full Text

Preamble

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Note: Figure translations are in progress. See original paper for figures.