

Development of Long-span Bridge Health Monitoring in Hong Kong

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Abstract

This talk will overview the development history of the field of health monitoring of large bridge structures in Hong Kong during the past thirty years, introduce the application of cutting-edge computer vision, robot detection, artificial intelligence and other technologies in health monitoring, and look forward to the future development trends in this field, especially digital twin technologies and bridge population-based monitoring. The speech will take practical projects such as the Tsing Ma Bridge in Hong Kong and the world's longest 55-km long Hong Kong-Zhuhai-Macao Bridge as examples, and particularly, the monitoring results of the Tsing Ma Bridge in the past 25 years and the current status of its monitoring system. Finally, a bridge monitoring platform on the Hong Kong Polytechnic University campus that integrates teaching, research, and education will be introduced. Its real-time monitoring data will be displayed.