

The Health Monitoring and Damage Identification Platform of the Civil Infrastructure Based on Internet

Xiao Chun¹ Qu Weilian² Zou Chengming³

¹School of Automation, Wuhan University of Technology, Wuhan 430070, P.R. China

Email: xiaochun70@163.com or xiaochun@mail.whut.edu.cn Tel.: 8627-62680562

²School of Engineering and architecture, Wuhan University of Technology, Wuhan 430070, P.R. China

Email: qwlian@public.wh.hb.cn Tel.: 8627-62680906

³School of Computer Science and Technology, Wuhan University of Technology, Wuhan 430070, P.R. China

Email: zoucm@mail.whut.edu.cn Tel.: 8627-62680511

ABSTRACT

The development of Internet technologies has facilitated real-time monitoring in more and more fields. This paper researches the Internet-based platform of remote health monitoring (RHM) and damage identification (DI) for civil infrastructure, and introduces its main task, researches platform framework, network architecture, software platform and hardware frame, and implements the network monitoring system. Data acquisition is the first step of a remote monitoring system. In this paper, data is acquired by the distributed sensor network, processed and displayed by real-time monitoring system, which integrate on-line real-time heterogeneous sensor data, database of complex structural system, data analysis and rational decision-making.

Keywords: health monitoring, civil infrastructure, damage identification, distributed sensor network, remote transmission, real-time monitoring