Automated Damage Detection for Building Elements of Temporary Structures using Laser Profiler

Jonghwa Hong[1] and *Sung-Han Sim[2]

[1], [2] *School of Civil, Architectural Engineering and Landscape Architecture, Sungkyunkwan University (SKKU), Suwon 16419, Korea*
ssim@skku.edu

ABSTRACT

Temporary structures such as scaffold and shoring are commonly used in construction sites for various purposes. Although construction site accidents are highly related to the temporary structures, research efforts have not been fully devoted to mitigating the potential risk. As most temporary structures in the construction sites are built by assembling each element, the use of intact building element is critical. This study proposes an automated damage detection approach for the building elements of temporary structures. A laser profiler is employed to obtain the 3D shape of an element; the prior information regarding the element and the 3D shape data are used to detect any deformation that can be considered as damage. The proposed damage detection method is validated using elements of temporary structures
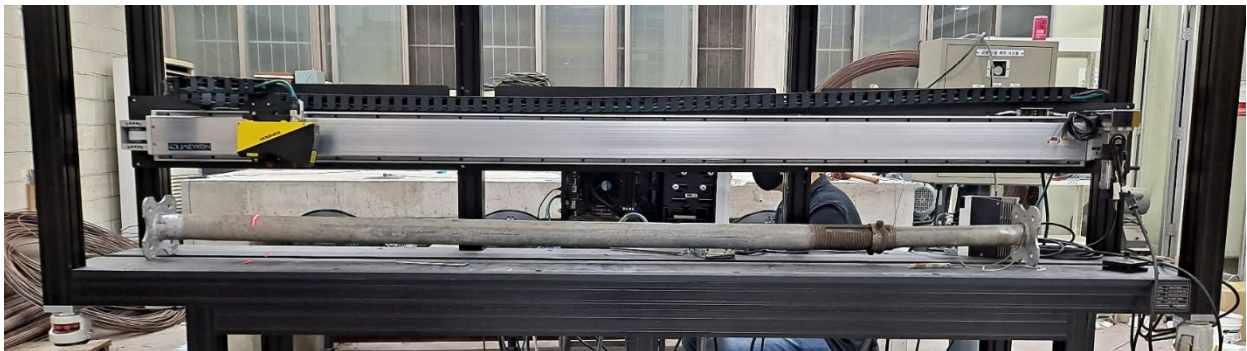
Fig. 1 Damage detection system for elements of temporary structures

Acknowledgement

---

[1] M.S. Student
[2] Professor

Ministry of Land, Infrastructure and Transport, and managed by the Korea Expressway Corporation."