

**Monitoring of wide-span timber roof structures –
development of a simple and robust monitoring system**

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Abstracts

This topic came into the spotlight with the collapse of the roof of the ice rink in Bad Reichenhall on 2.1.2006 and the extensive research that followed. The results have triggered more intensive work in the monitoring of wide-span timber structures.

This paper focuses on ways of employing digital image processing in the monitoring of buildings to gauge deformations in wide-span timber roof structures in conjunction with the electronic measuring of snow loads. The practical implementation of digital image processing is introduced and discussed using a pilot project for a gymnasium in Bavaria as an example.

The goal is a simple, robust and redundant monitoring system for wide-span timber structures. It will combine traditional methods (such as on-site inspection by qualified specialists) with new technical developments like digital photography, snow load measuring systems and fast, automatic data transmission and use of the internet. This research is to be carried out by an interdisciplinary team.