



Spatial Parameter Imaging™ (SPI) Methodology for Assessing Structures' Current Condition and Serviceability over an Asset's Life Cycle

Despite a constantly increased use of 3D laser scanning techniques over the last decade in various stages of an asset's life cycle, the imaging of non-physical entities for an accurate physical characterization of the key structures still remains a challenge.

SCDS elaborated a methodology for tridimensional imaging of large structures including novel SPI methods and data integration via multi-source SPI.

Concrete structures are often severely affected by Alkali-Aggregate Reaction (AAR), which causes swelling of the concrete and could lead to progressive dimensional changes, i.e., parametric modifications. Critical decisions about the type, scope and time schedule of the required construction, monitoring and rehabilitation work have to be made in order to remedy the problems that can occur due to AAR.

SCDS's studies have essentially advanced the existing state of knowledge in SPI and its application scope for large and/or monolithic structures construction, monitoring and rehabilitation.

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