



Application of laser scanning technique in earthquake protection of Istanbul's historical heritage buildings

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Istanbul's vast historical and cultural heritage is under constant threat of earthquakes. Historical records report repeated damages to the city's landmark buildings. Our efforts towards earthquake protection of several buildings in Istanbul involve earthquake monitoring via structural health monitoring systems, linear and non-linear structural modelling and analysis in search of past and future earthquake performance, shake-table testing of scaled models and non-destructive testing. More recently we have been using laser technology in monitoring structural deformations and damage in five monumental buildings which are Hagia Sophia Museum and Fatih, Sultanahmet, Sleymaniye and Mihrimah Sultan Mosques. This presentation is about these efforts with special emphasis on the use of laser scanning in monitoring of edifices.