SURVEYING OF SANDSTONE MONUMENTS: NEW AND TRADITIONAL METHODOLOGIES TO ASSESS VIABILITY OF CONSERVATION ACTIONS

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Abstract *Sandstone building stones are important in the building elements of Portuguese monuments, particularly in the western and southern regions. Alveolization due to salt crystallization was the most important degradation pattern found in the old sandstone façades of St. Leonardo's Church, a Portuguese monument built in Atouguia da Baleia village in the Middle Age. Its sandstone façades have a widespread distribution of deep and large alveolization patterns mainly on portals and vaults that appeared as a result of the past and present vicinity of seashore. In this paper a summary of conservation interventions carried out in the past century in St. Leonardo's Church is presented, as well as a summary of the studies carried out in the last decade. Then the degradation patterns on the sandstone walls of St. Leonard's Church are shown and finally the evolution of the alveolization occurred on the sandstone walls over the last sixty to seventy years is analysed. Visual inspection of sandstone walls is compared with a survey performed by laser scanning, which seems to be a powerful technology to carry out 3D geometric modelling of the building elements of stone monuments and also the 3D mapping of stone degradation patterns.*

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