

INTEGRATION OF SURVEYING METHODS AND MULTIMEDIA TOOLS TO OBTAIN A VIRTUAL RECREATION OF AN ARCHAEOLOGICAL SITE

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ABSTRACT:

The use of close-range remote sensing techniques, together with recent multimedia tools, allows to obtain 3D record documents containing not only accurate measurements but also realistic textures. Close-range photogrammetry obtains metric information of any photographed object from groups of overlapping pictures, giving detailed and exact knowledge of any structure. Photogrammetry gives the three-dimensional position of any point, recording also all visual information. Ground-penetrating radar gives internal information of the studied structures, allowing the detection of cracks in buildings, estimation of wall thickness or detection of humidity inside structures. GPR is also a very powerful tool to detect and positioning remains at unexcavated archaeological sites. Post-processing of all this data with multimedia tools made possible the making of animations and virtual environments in standard movie formats (AVI, MOV, MPEG, VRML, etc), giving a three-dimensional realistic aspect. This work shows the results obtained applying close-range techniques (photogrammetry and GPR) together with multimedia tools at an archaeological site in Galicia, north-western Iberian Peninsula, in order to detect, document and obtain 3D photo-models and the virtual recreation of an unknown buried chamber tomb from the megalithic age (4000-3000 BC).