



3D Monitoring under the Kecioua Mosque (Casbah-Algier, Algeria) with Ground Penetrating Radar Method

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Kecioua (Ketchaoua) Mosque, in Casbah-Algiers, the capital of Algeria, is a UNESCO World Heritage Site. Kecioua Mosque was originally built in 1612 by the Ottoman Empire.

A RAMAC CU II GPR system and a 250 MHz shielded antenna have been employed inside of the Mosque including the Cathedral and inside of the burial chambers under the Cathedral Site on parallel profiles spaced approximately 0.30 m apart to measure data. After applying standard two-dimensional (2D) and three dimensional (3D) imaging techniques, transparent 3D imaging techniques have been used to photograph the foundational infrastructures, buried remains and safety problems of the Mosque.

The results showed that we obtained 3D GPR visualization until 12.0 m in depth. Firstly we imaged the base floor including corridors. Then we monitored buried remains under the first ground level between 5.0-7.0 m in depths. Finally we indicated 3D GPR photographs a spectacular protected buried old mosque structures under the second ground level between 9.0-12.0 m in depths.

This project has been supported by Republic of Turkey Prime Ministry Turkish Cooperation and Coordination Agency (TIKA). This study is a contribution to the EU funded COST action TU1208, "Civil Engineering Applications of Ground penetrating Radar".