



## **Innovative geophysical measurements on the cultural heritage in Malta: the case study of the S, Agata Tower**

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Within the international bilateral project “Non-invasive investigations to enhance the knowledge and the enjoyment of cultural heritage” (funded by Consiglio Nazionale delle Ricerche and University of Malta), an integrated geophysical prospecting [1] were conducted in Malta in September 2018.

Among the different sites investigated during the last campaign of measure, we focus on the results achieved close to the St Agatha's tower (also known as Red Tower), a fortified site located in the northern sector of the island.

This monument was built in 1647 and is can be perhaps considered one of the most important watchtowers built by the Knights of Malta, aimed especially to identify the ships of the ottoman enemies. The tower has been also recently restored and now it has become a touristic attraction.

The investigations were performed making use of the techniques of the ground penetrating radar and geoelectrical tomography. Specifically, since it was not possible to carry out internal measures of the tower, an unconventional ERT configuration surrounding the tower was used in order to investigate the possible presence of hypogeal structures below it. Such a configuration was already exploited e.g. in [2]. Moreover, in order to integrate the ERT measurements, some GPR Bscans have been also gathered outside the monument [3] and in particular overflying a cistern connected to the structure. The data show the possible presence of a cavity under the tower and the presence of connections between the cistern and the tower.

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### References

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