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Integration of archaeological and geophysical surveys in Hierapolis of Phrygia (Turkey)

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An in-depth analysis of some areas in the Hellenistic, Roman and Byzantine city of Hierapolis of Phrygia (south-western Turkey) has been carried out using high resolution geophysical methods integrated to the archaeological surveys in order to detect evidence of archaeological features buried under colluvial deposits and to acquire ew data of some sectors of the urban area. In particular, three areas were investigated in the northern, central and southern sectors of the ancient city: i) the Northern Agora, built in the 2nd century AD and sourrounded by three stoai and a basilica; ii) the Sanctuary of Apollo, in use during the Hellenistic and Roman Age; iii) some insulae with houses of the Roman and Byzantine periods, inside the orthogonal road network of the city.
Geophysical data were collected in these areas of interest using different surveying methodologies, during different campaigns of activity of the Italian Archaeological Mission: electrical resistivity tomography, ground penetrating radar, magnetometry and GEM. In some cases, geophysical measurements were verified during subsequent archaeological excavations.
Besides the important scientific implications, the integration of archaeological and geophysical surveys provided a useful tool for the knowledge of these large sectors of the city and the reconstruction of the ancient urban layout. All data collected were integrated in the digital archaeological map of Hierapolis, linked to a Geographic Information System (GIS), in order to contextualize the identified archaeological features in the ancient urban plan.