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Integrating geophysics in a large scale survey project. The Mautern Hinterland Survey.

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Until now, Roman archaeology in Austria has mainly focused on urban and military sites as well as upper-class farm-estates (villae), but failed to see them as part of a wider and much more diverse landscape. Apart from mainly unpublished rescue excavations, the Roman countryside and rural settlement has been paid very little attention.
Following upon the publication of large scale excavations in the Roman military camp and the adjacent vicus at Mautern (Favianis) at the Danubian Limes, the Mautern Hinterland Project makes a start to bridge this gap.
Adopting extensive and intensive field (artefact) surveys, artefact studies and geophysical surveys, the project aims to develop a framework for the characterisation and classification of Roman period rural sites between the military camps Pöchlarn (Arelape), Mautern (Favianis), Traismauer (Augustianis) and the municipium St. Pölten (Aelium Cetium) in Lower Austria.
In a pilot study, different survey- and geophysical techniques and routines were tested on several known sites in the study area in order to characterise different kinds of structures and to provide a survey design, which allows for the assessment of different types of sites, taking the restricted time and number of staff available into account.
Within the study area, four sectors, exhibiting different environmental conditions, were selected for systematic surveys targeting on specific problems in our understanding of Roman land use. During the field surveys, a vast number of artefacts covering all periods from the Neolithic till the Modern Era were recovered, representing a large number of sites as well as ‘off-site’ scatters.
In a third stage, geophysical surveys and intensive artefact collection are undertaken on the newly located sites to show the underlying structures and link these to the distribution of surface finds, thereby allowing for a general reconstruction of intrasite activities.
The geophysical methods applied are geomagnetics, using Fluxgate gradiometers, and – if stone structures can be expected – resistivity as well as Ground Penetrating Radar. The fact that all equipment is available at the institute and can be used by the same team allows for a highly flexible workflow and an optimal integration of geophysical data into larger research questions.
The role of geophysics in the different stages of the project as a tool providing data to formulate statements on the density, pattern, technical and functional aspects of subsurface structures is vital. Using lightweight and user friendly instrumentation, the fieldwork can be carried out with a limited number of staff within short time.