



Multi-geophysical exploration of iron-age settlement sites: From field measurements to model predictions

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Archeological settlements of the iron age are widely distributed over Europe. Most of the settlement structures, however, are buried under the surface, thus hidden from direct observations. Here, an interdisciplinary approach based on geophysical exploration and landscape reconstruction helps to identify settlement sites and their usage. Within the excellence cluster 264 “The Formation and Transformation of Space and Knowledge in Ancient Civilizations” hosted by the Free University of Berlin and the Humboldt University of Berlin, we have explored several iron-age sites with gradient magnetics, geoelectric resistivity tomography, georadar, and transient electro-magnetic methods. The sites were then probed with gravity cores, and samples have been examined for bulk magnetic susceptibility, amongst other parameters. The results of the field and laboratory work have been compiled into a three-dimensional model of the settlement sites. The sub-surface structures identified from the surface and the cores, e.g. shafts, peri-glacial landforms, and settlement remains, have then been modelled to identify their three-dimensional extension, thus revealing the site locality, both from the settlement perspective and the surrounding landscape.