The application of semi-automated anomaly identification to large scale archaeological GPR data sets

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Large area, high sample density data acquisition using multi-channel GPR systems provide highly detailed coverage of near-surface, archaeological remains at a landscape scale. This produces a volume of 3D data, often in the form of multiple amplitude time or depth slices of the buried ground surface, which can present a considerable challenge for the subsequent identification and interpretation of significant archaeological anomalies. This presentation examines the application of semi-automated analysis of GPR data sets to identify georeferenced vector objects from the original raster data. The potential archaeological significance of the vector objects is then determined through a consideration of the morphology and continuity within successive amplitude slices. A particular application is made to the location of pit-type anomalies, which are often highly numerous across a landscape, yet can be time consuming to interpret through manual extraction of each individual response from multiple layers within a data set.