

Electromagnetic methods for assessing interfering risks. Comparison between existing instrumentation and techniques, and potential developments of the methodology

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In the execution phase of construction sites, archaeological artefacts, unexploded ordnance, polluting materials, etc. of which one was not aware are often identified.

Preliminary geophysical analysis of possible interfering risks (war, environmental, archaeological) makes it possible to minimize unforeseen events during construction.

Among the various geophysical survey methodologies for interference analysis, electromagnetic surveys in the frequency domain provide optimal results, due to the speed of survey and processing, resolution and depth of investigation.

Experiences of various electromagnetic methodologies and instrumentation, highlighted limits and advantages.

The project intends to compare the various instruments currently on the market, the available processing techniques for the inversion of the data results obtained and systematically analyze 'pros and cons'.

The research project will be divided into three stages:

- literature analysis of existing electromagnetic survey instruments and processing techniques
- execution of tests and comparison of the results obtained with the various instruments and approach
- definition of good practice for the acquisition