

## **GPR FREQUENCY-SLICES FOR SHALLOW DEPTH SURVEYS: RESULTS FROM SOME CASE HISTORIES**

Cammarano F. (Geomare sud, CNR, Napoli, Italy)

Piro S., (ITABC-CNR, P.O. Box 10, 00016 Monterotondo Sc. (Roma), Italy)

[Piro@mib.cnr.it](mailto:Piro@mib.cnr.it)

The three-dimensional (3D) acquisition technique and the time-slice representation are generally applied using GPR method for shallow depth investigations. As known, the velocity variations of e.m. waves, in the ground, according to the different characteristics of the crossed media, can limit the application of the time-slice representation. This is more evident when the time-slices are directly related to the possible depth of the searched anomalous bodies.

To enhance the S/N ratio and the image resolution of the GPR sections, we considered the frequency content for each radar traces. The frequency sections, obtained by the combination of all transformed traces, allow us to better locate the anomalous bodies.

The representation of a frequency slice, balanced around the central frequency of the used antenna, is finally achieved. By using different antennas it is possible to get information at various depth. In the present work the results of GPR surveys, performed in different sites, are presented and discussed.