Geophysical Research Abstracts
Vol. 16, EGU2014-15960, 2014
EGU General Assembly 2014

Portuguese experience on the use of GPR

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Ground penetrating radar has been used for several decades in a wide range of applications, from pure research towards structural diagnostics and infrastructure survey. This method has proven to be very useful for fast and nondestructive quality check of structures, especially road pavements. Due to this fact, the use of this method is mandatory in a number of countries (United States, United Kingdom, Norway, etc.) before any digging operation or for the quality inspection of bituminous road beds, for example. In those countries, national guidelines exist to regulate the use of these equipments as well as rules and protocols to be followed by the professionals that provide those kinds of services.

In Portugal, despite the advanced level of the structural engineering and construction professionals, and the existence of complex structures, the use of ground penetrating radar has exhibited a rather low penetration rate, comparatively to other European countries. This situation is due in part to the fact that GPR services are still more expensive than a more traditional way, which generally does not have the same degree of precision or implies the destruction of a part of the inspected area, and also because of the nature of Portuguese professionals. There is also a lack of national rules to regulate the use of GPR, which is the responsibility of ANACOM, as well as a certain lack of knowledge from national and regional authorities in order to make it mandatory in particular applications, namely in the case of intervention in the underground and road infrastructure.

Despite this situation, GPR has been used in Portugal in recent years, although being mostly confined to the academic world. Thus, this communication presents several examples of the Portuguese experience on the use of GPR, which ranges from academic research towards structural and infrastructure inspection, to archaeological survey. This work is a contribution to COST Action TU1208 "Civil Engineering Applications of Ground Penetrating Radar".