



Position monitoring in GPR prospecting on vertical surfaces

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Monitoring the position of a GPR [1-3] antenna on a vertical surface is an issue of interest for prospecting of walls, pillar, columns and possibly vertical rocks or even pedestals or large statues. Usually, these kind of prospecting are performed with high frequency GPR antennas, and consequently the precision of the positioning of the antenna should be of the order of one cm or less. This can be an issue worth considering, especially because a high frequency antenna is generally taken in the hand of the human operator, and it is difficult for him/her to keep constant the distance from the antenna and the soil while taking a long horizontal Bscan (i.e. a Bscan on a large wall at a fixed height). Mechanical positioning systems have been proposed, but in general they are bulky, heavy, expensive, difficult to transport and devoted for a specific case or for laboratory analyses. Recently, laser methods for monitoring the position of the antennas have been commercialised too, but at the moment they are calibrated for areas of the order of one square meter or slightly more, which is not enough in most practical cases. In this contribution, some preliminary results will be presented regarding the monitoring of the correct position of a high frequency GPR antenna based on a laser meter attached to the antenna, which is a compromise solution between the required precision and the application on relatively large scale vertical prospecting.

References

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