

THE FEASIBILITY OF THE SHALLOW SEISMIC REFLECTION SURVEY IN A GEOLOGICAL-GEOTECHNICAL INVESTIGATION IN URBAN SITES. PARTICULARITIES IN THE ACQUISITION AND PROCESSING OF THE DATA.

1PRADO, R.L.; 2MALAGUTTI FILHO, W.; 2DOURADO, J.C. 1Institute for Technological Research of Sao Paulo State, Sao Paulo, Brazil; 2IGCE, Sao Paulo State University, Rio Claro, Brazil

The resolution of engineering problems in large urban areas requires the characterization and imaging of materials in subsurface and the shallow seismic reflection method has an important role. It has the advantage of being non destructive, non intrusive and less expensive than the other traditional methods of investigation. In the urban areas, however, there are several cultural noises such as magnetic and electromagnetic interferences of plumbing and electrical cables, vibrational noises from the traffic, etc. and the surface is usually paved by asphalt. Adding to these difficulties, the geological targets are usually shallow (less than 15 meters deep). The employment of the seismic methods in these areas demand instrumental and methodological adaptations for the acquisition and require careful use of the processing methods. A shallow seismic reflection survey that was conducted in Sao Paulo City, Brazil, illustrates methods to employ this technique in an urban setting. Peculiar aspects of the acquisition and processing of the data collected are shown and discussed here as well as an interpreted CMP (common mid point) stacked section.