



Spectral Analysis of Surface Waves and Standard Penetration Test for Sub-Soil Characterization: A Comparison Study.

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Spectral Analysis of Surface Waves (SASW) is a method used for sub-soil characterization. SASW has the advantage of being non-intrusive and non-invasive. Commonly used in current geotechnical engineering for being faster and cheaper than other laboratory tests. Standard Penetration test (SPT), which is used to obtain stratigraphic profiles of the sub-soil, contrary to SASW test, is invasive, destructive and not less important, expensive.

The SASW method uses dispersive characteristics of Rayleigh waves in stratified or half-space media to obtain their physical parameters and henceforward its characterization. From this, a soil profile is estimated.

A comparison between a geophysical method, Spectral Analysis of Surface Waves (SASW), and the N-value obtained from a classic geotechnical test (SPT) to estimate and characterize the in-site sub-soil properties at Patillas Dam, Puerto Rico, will be given in this work.