

## **APPLICATION OF GROUND PENETRATING RADAR TO ARCHAEOLOGICAL SITES**

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Ground penetrating radar has been extensively applied to Archaeology to identify underground features. In georadar surveys the magnitude and the characteristics of the received signal are controlled by the geometry and the contrast of the conductivities and dielectric constants of the constituting materials of the environment under study. In this study, a georadar apparatus, working with 200 and 400 megahertz antennae, is used to locate archaeological features at Araruama city, Rio de Janeiro, as an aid to optimize their recovery. Archaeological sites in the research area are located near the sea in a sandy environment and pertain to Subtradição Tupinambá, an indigenous prehistoric group which has been characterized by the confection of multicolored and ornamented ceramic bowls and funerary urns. The georadar response at the Serrano Archaeological Site has been modelled by using profiles across outcropping ceramic urns. One profile clearly showed two vertically separated features. Excavation revealed the existence of a urn separated from its lid. The analysis of profiles at other archaeological sites of the region is under way. The results already obtained strongly suggest the georadar may represent a powerful tool in the location of ceramic archaeological features embeded in sand.