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Dielectric and Magnetic Properties of Prehistoric Ameridian pottery from different Venezuelan islands

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We have performed a provenance study of 19 pottery samples from 7 Venezuelan islands (C14 ages: 1060 to 1530 AD). Anthropologic evidence suggests that these ceramics were not produced in the islands but in the Amerindian permanent settlements on mainland. To further discriminate for their sources we have applied cluster analyses using a set of independent physical properties obtained for each sample. These properties are: rock magnetic (e.g. room and high temperature susceptibility measurements, NRM, ARM and IRM) and dielectric (i.e. thermally stimulated depolarization currents). We have also performed thin section petrographic analyses. In spite of NRM and susceptibility differences between various samples most of them show single-domain magnetite. The dielectric study reveals similar complex relaxation spectra for samples of a same origin. The temperature position and contribution to polarization of these relaxations were correlated. Age and island location of the archeological sites seem to be important factors discriminating provenance groups of combined dielectric and magnetic data.