

# VitroGeoWaste III

**Vitrification of wastes from some Canary Islands Basaltic rocks**

**and their electrical properties**

**Oral presentation  / Poster presentation**

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**Abstract:** Some basaltic waste rocks from canteras from Canary Islands basalt rocks (La Gomera, Fuerteventura, Tenerife and El Hierro) have been vitrified and devitrified by controlled melting and recrystallization. Main crystalline phases were pyroxenes, feldspar (anorthite) and magnetite, which decorate the dendritic crystallization of pyroxenes. Electrical measurements have been carried out under complex impedance at temperatures in 250°C-700°C range. From these electrical determinations is possible to follow the nucleation and crystal growth process as well as by electron microscopies (SEM and TEM). The magnetite nanocrystals are the main responsible of conduction according to a model of electronic conduction, being controlled by  $Fe^{2+}/Fe^{3+}$  ratio.