SR-ND-PB ISOTOPE DATA FOR BASALTIC ROCKS FROM LA GOMERA, CANARY ISLANDS.

1Brändle, J.L.; 1Ancochea, E.;1Huertas, M.J.; 2Cubas, C.R. & 2Hernán, F. (1) Depto. de Petrología y Geoquímica. Univ. Complutense - Inst. Geología Económica. C.S.I.C. Ciudad Universitaria. 28040 Madrid (Spain). (2) Depto. de Edafología y Geología. Universidad de La Laguna. 38204 La Laguna. Tenerife (Spain)

Nd, Sr, and Pb isotope ratios from La Gomera are advanced, compared and discussed in this work. La Gomera, show striking contrasts with La Palma and Hierro, the other two westernmost islands of the Canarian Archipelago: the much older activity of La Gomera ranges from at least 12 Ma to about 2 Ma, so with no recent activity at all, whilst the two other islands built up by very recent activity less than 3 Ma and 1 Ma respectively. La Gomera is formed of two major volcano stratigraphic units: the Old Basaltic Series and the Recent Series. All rocks are alkaline, from middle to strongly alkaline: basalt - trachyte, and basanite - phonolite. The isotopic variation in La Gomera lavas ($^{87}Sr/^{86}Sr$ = 0.70305 to 0.70331; $^{143}Nd/^{144}Nd$ = 0.512875 to 0.512918; $^{206}Pb/^{204}Pb$ = 19.057 to 19.999; $^{207}Pb/^{204}Pb$ = 15.583 to 15.658; $^{208}Pb/^{204}Pb$ = 38.943 to 39.691 and $^{207}Pb/^{206}Pb$ = 0.7818 to 0.8194) can be explained by mixing of a HIMU plume, depleted upper mantle (DMM) and enriched sublithospheric mantle (EM-I and EM-II). These isotopic compositions fall within the general range of the canarian rocks, but they represent the highest Sr and Pb isotope ratios, close to those from the old and eastern island (Fuerteventura) and far from those from La Palma and Hierro. The Old Basalts and the Recent Basalts from La Gomera are similar in their Pb and Nd isotope ratios, but show different Sr isotope ratios, lower those of the Recent Basalt (0.70307 average) than those of the Old Basalts (0.70324 average).