

Density muon tomography of La Soufrière of Guadeloupe lava dome

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We present density radiographies of La Soufrière of Guadeloupe lava dome acquired from three locations around the volcano. The radiographies show that the lava dome has a very heterogeneous structure with large volumes of low-density materials, some of them corresponding to recognized hydrothermally altered areas. The main structures observed in the density radiographies are compared with those obtained from electrical resistivity measurements. Information provided by muon tomography is discussed with respect to the structure and the functioning of the hydrothermal system of the lava dome.