



DOAS monitoring network at Piton de la Fournaise volcano (Reunion Island): installation and first results from the NOVAC project

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Piton de la Fournaise volcano (PdF) forms part of the Network for Observation of Volcanic and Atmospheric Change (NOVAC), to monitor volcanic gas emissions using Scanning Miniature - Differential Optical Absorption Spectrometer (Mini-DOAS) instruments.

Three automated Scanning Mini-DOAS systems have been installed at PdF in mid September 2007 and included in the existing volcano monitoring network (seismic and geodetic network). Time-resolved SO₂ measurements are acquired on average every 10 minutes, rendering possible a correlation between geochemical and geophysical parameters (e.g. seismic, deformation), particularly valuable in period of volcanic crisis.

Magmatic activity at PdF typically takes place at the summit crater and along radial fissures extending from the summit area, originates lava flows and fire fountains associated with abundant release of gases into the atmosphere. Although much is known about the volcano, comprehensive studies on degassing mechanisms and gas emissions at PdF are still lacking. Here we report details on the installation of the mini-DOAS network and the first results on degassing processes at PdF.