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Muon radiography of the Unzen volcano with a nuclear emulsion detector.

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The improvements of automated scanning systems have produced an impressive revival of the nuclear emulsion technique, thus allowing their large scale application in particle physics experiments. The portability of a nuclear emulsion based detector makes it well suitable also for the muon radiography of internal structures of volcanoes. We present the application of this technique to the study of the Unzen and Stromboli volcanoes. We will report preliminary results on the analysis of emulsion films exposed in Japan and being currently scanned in Italian and Japanese laboratories. For the Stromboli we present the design of the emulsion detector and the plans for the future analysis.

Auteur principal: Dr RUSSO, Andrea (INFN Napoli)

Orateur: Dr RUSSO, Andrea (INFN Napoli)

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