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The transmission muography technique for locating potential Radon gas conduits at the Temperino mine (Tuscany-Italy)

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Transmission muography is an imaging technique that allows 2D and 3D images of the average target density by measuring the transmission of atmospheric muons within the target. The structures studied can be as large as volcanoes, pyramids, archaeological or mining sites, blast furnace, dams and the detectors used in this technique are muon trackers.

In this presentation the potential of the technique will be illustrated through the description of the results obtained from two muographic measurements conducted for the search for low density anomalies attributable to cavities inside the Temperino mine (Livorno –Italy). The measurements were concentrated in the tourist path in an area dating back to the Etruscan period at a depth of about 40 m from ground level where the greatest concentration of Radon gas is observed. This area has not yet been explored and the identification of overlying cavities may be linked to the greater presence of Radon gas as the cavities could represent preferential conduits into which the gas can enter the tourist route. The location of any cavities can be also important for the safety, in terms of stability, of the tourist route.

Is this an abstract from experimental collaboration?

No

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

Diletta Borselli PhD, National Institute for Nuclear Physics INFN, Division of Florence, Via Bruno Rossi 1, 50019, Sesto Fiorentino, Italy and Department of Physics and Astronomy, University of Florence, Via Giovanni Sansone 1, 50019 Sesto Fiorentino, Italy. webpage of institution: <https://www.fi.infn.it/index.php/it/>

Internet talk

No

Author: BORSELLI, Diletta (National Institute for Nuclear Physics INFN, Division of Florence, Via Bruno Rossi 1, 50019, Sesto Fiorentino, Italy)

Co-authors: Prof. DINI, Andrea (Institute of Geosciences and Georesources CNR, 56127 Pisa, Italy); Dr PACCAGNELLA, Andrea (Department of Physics and Astronomy, University of Florence, Via Giovanni Sansone 1, 50019 Sesto Fiorentino, Italy); Dr FROSIN, Catalin (Department of Physics and Astronomy, University of Florence, Via Giovanni Sansone 1, 50019 Sesto Fiorentino, Italy); Dr BROCCCHINI, Debora (Parchi Val di Cornia S.p.A., Via Giovanni Lerario 90, 570254 Piombino, Italy); Prof. GIGLI, Giovanni (Department of Earth Sciences, University of Florence, Via Giorgio La Pira 4, 50121 Florence, Italy); BONECHI, Lorenzo (Istituto Nazionale di Fisica Nucleare (INFN)); Dr LOMBARDI, Luca (Department of Earth Sciences, University of Florence, Via Giorgio La Pira 4, 50121 Florence, Italy); Prof. CASAGLI, Nicola (Department of Earth Sciences, University of Florence, Via Giorgio La Pira 4, 50121 Florence, Italy); Prof. D'ALESSANDRO, Raffaello (Department of Physics and Astronomy, University of Florence, Via Giovanni Sansone 1, 50019 Sesto Fiorentino, Italy); Mr CIARANFI, Roberto (National Institute for Nuclear Physics INFN, Division of Florence, Via Bruno Rossi 1, 50019, Sesto Fiorentino, Italy); Dr GONZI, Sandro (Università degli Studi di Firenze e INFN); Ms GUIDERI, Silvia (Parchi Val di Cornia S.p.A., Via Giovanni Lerario 90, 570254 Piombino, Italy); Dr VEZZONI, Simone (Institute of Geosciences and Georesources CNR, 56127 Pisa, Italy); BENI, Tommaso; Prof. CIULLI, Vitaliano (National Institute for Nuclear Physics INFN, Division of Florence, Via Bruno Rossi 1, 50019, Sesto Fiorentino, Italy)

Presenter: BORSELLI, Diletta (National Institute for Nuclear Physics INFN, Division of Florence, Via Bruno Rossi 1, 50019, Sesto Fiorentino, Italy)

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