TOPIC. "Muography applied to geosciences and beyond"

"Cosmic-ray muon imaging or muography uses the natural flux of elementary particles, called muons, produced in the atmosphere, to characterize the density of large geological or anthropic structures. Density is estimated by comparing muon fluxes before and after traversing the body, in a similar way to X-ray radiography. Density changes in time can also be estimated by continuously measuring the muon flux with a pixelized muon detector. This technique offers new opportunities to study targets ranging from large bodies such as volcanoes or geological structures above deep tunnels; to meter-scale ore bodies and archeological structures.
In this review we present the basic features of the muography technique and detail recent results ranging from active volcanoes monitoring and underground systems characterization to industrial non-invasive and non-destructive controls."