



Contribution ID: 43

Type: **Oral presentation**

Muography instrumentation at the Wigner Research Centre for Physics

Monday 19 June 2023 14:30 (20 minutes)

Muography is a rapidly expanding research field, its development boosted both by an emerging coherent research community as well as technology transfer towards professional end-users. Unlike the variety of applications, the measurement tool serves one purpose: efficient, reliable, sufficiently precise cosmic muon detection. The talk aims to give an overview of the instrumental challenges, based on examples by the Wigner RCP. This includes background suppression in case of low flux such as thick volcanoes or deep underground, or low-maintenance long term operation in challenging environmental conditions. It is remarkable to what extent the specific conditions demand very different detector configurations. Mining applications, as introduced during the talk, are of particular interest due to economic and social impact. Muons are not only absorbed, but get scattered and emit secondaries, which open up a broad range of new detection methods.

Author: VARGA, Dezso (Wigner Research Centre for Physics (Wigner RCP) (HU))

Co-authors: GERA, Adam Laszlo (Wigner Research Centre for Physics (Wigner RCP) (HU)); SURANYI, Gergely (Wigner Research Centre for Physics, Budapest, Hungary); HAMAR, Gergoe (Wigner Research Centre for Physics (Wigner RCP) (HU)); GALGÓCZI, Gábor (Wigner Research Centre for Physics); NYITRAI, Gábor

Presenter: VARGA, Dezso (Wigner Research Centre for Physics (Wigner RCP) (HU))

Session Classification: Industrial applications