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## Muon Radiography and Its Applications

*Tuesday, 4 July 2023 17:00 (25 minutes)*

Muon radiography has become an innovative and promising technique for internal density structure imaging, based on measuring the attenuation of cosmic-ray muons after penetrating the target. We have developed a portable muon detector which composed of plastic scintillator and SiPM. By using the detector, we performed several muon radiography experiment in China, such as imaging the overburden structures in tunnel and subway station, the internal structure of volcanoes, as well as in archaeology and industry filed. We also developed effective algorithms for muon radiography and scattering imaging, like Grey Relational Analysis (GRA) based on PoCA to identify the Multi-Materials Tightly Combined (MMTC) objects interface, the low-energy particles eliminating method to refine muon radiography for volcanoes, and novel 3D internal structure imaging methods and so on.

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