

Cosmic Ray Radiography

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Abstract Transmission radiography using cosmic ray muons is a technique first used in the 1950's by E.P.George[1] to measure the overburden of mine shafts, and most famously by Alvarez[2] to search for hidden chambers in the second pyramid of Chephren in Giza. The high penetrating power of near horizontal cosmic ray muons has even been utilized in radiographing volcanoes.[3] The high penetration of cosmic ray muons is not suited to radiography of more conventional objects because of the low flux and high penetration. A new technique that uses the scatter of muons to infer path length densities[4] has been developed in Los Alamos and is being applied to a range of practical problems from home land security[5] to reactor imaging [6-8]. The current status of the Los Alamos muon scattering radiography program will be presented.

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