An energetic proton from space enters the earth’s atmosphere. That proton starts an avalanche of elementary particles. The muons (µ) would be a nuisance to both the MINOS and the CDMS experiments. Most muons are blocked by rock above and around the Soudan mine.

Deep in the Soudan mine, you must wait an entire day before 1 muon passes through your hand. A muon can collide with a nucleus in the rock, busting up the nucleus and thereby liberating neutrons. A neutron can fake the signature of a dark matter particle.

At the surface, each second about two muons pass through your hand. Signals from muons (µ) are detected by the `fiber detector' at the surface, shown disassembled.

Neutrinos (ν) produced in the atmosphere penetrate the rock, and some of them are detected by the MINOS Far Detector 8 miles.