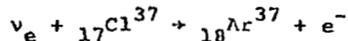


The detection mechanism is the reaction



The radioactive Ar^{37} is collected and counted. A deep underground site is necessary to avoid the production of the same end-product by (p,n) reactions induced by cosmic-ray muons.

Cosmic rays interacting in the earth's atmosphere produce mesons (pions and kaons) which decay into muons and neutrinos. These neutrinos have been observed in a South African gold-mine by a collaborative group from the University of California (Irvine), Case-Western Reserve University and the University of the Witwatersrand.³ The results were corroborated by an Indian-Japanese-British group working in the Kolar gold fields of India.⁴

DUMAND - Project DUMAND, which is an acronym standing for Deep Underwater Muon And Neutrino Detector, is intended as a further step in the direction of establishing experimental neutrino astronomy. Still in the formative stage, DUMAND is the outgrowth of informal conversations in the last few years among a number of cosmic-ray physicists interested in muon and neutrino detection. At first the idea of a large underwater Cerenkov detector, in which the light produced by fast charged particles in the ocean produces electrical pulses from photomultiplier tubes, arose in connection with the problem of determining the muon depth-intensity curve in a well-specified medium. Depending on the confidence with which one believed either the