

Towards a South African Underground Laboratory

Thursday, September 12, 2013 3:20 PM (20 minutes)

Over the past two years there has been discussion among South African physicists about the possibility of establishing a deep underground physics laboratory to study, amongst others, double beta decay, geoneutrinos, reactor neutrinos and dark matter. As a step towards a full proposal for such a laboratory a number of smaller programmes are currently being performed to investigate feasibility of the Huguenot Tunnel in the Du Toitskloof Mountains near Paarl (Western Cape, South Africa) as a possible sight for the South African Underground Laboratory facility. The programme includes measurements of radon in air (using electret ion chambers and alpha spectroscopy), background gamma-ray measurements (inside/outside) the tunnel using scintillator (inorganic) detectors, cosmic ray measurements using organic scintillators and radiometric analyses of representative rock samples.

Primary author: Prof. WYNGAARDT, Shaun (Stellenbosch University)

Co-authors: Dr BEZUIDENHOUT, Jacques (Saldanha Military Academy, Stellenbosch University); Dr MALEKA, Peane (iThemba LABS, National Research Foundation); Prof. NEWMAN, Richard (Stellenbosch University); Dr SMIT, Ricky (iThemba LABS, National Research Foundation); Prof. LINDSAY, Robert (University of the Western Cape); Prof. DE MEIJER, Robert (EARTH foundation); Dr NCHODU, Rudolph (iThemba LABS, National Research Foundation)

Presenter: Prof. WYNGAARDT, Shaun (Stellenbosch University)

Session Classification: Underground Laboratories/ Large Detectors I

Track Classification: Underground Laboratories/Large Detectors (incl. Nucleon Decay)