

## Design of a national indoor radon survey for South African Homes: review of existing indoor radon concentration data and associated measurement techniques

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Radon  $^{222}\text{Rn}$  is a natural radioactive gas directly produced from the decay of Radium,  $^{226}\text{Ra}$  found in rocks and soil. Since radon is a gas, it can move freely through the soil allowing it to escape into the atmosphere or flow into buildings. Elevated radon-in-air levels are associated with an increased risk of developing lung cancer. Over the years comprehensive surveys of indoor radon levels were performed in a number of countries (e.g. Ireland, France). In 2018 the Centre for Nuclear Safety and Security (CNSS) in South Africa, initiated a project call to design a national indoor radon survey in South Africa. Stellenbosch University was successful in getting funding to execute this collaborative project. Here we report on results from our desktop-based survey of existing indoor radon data for South Africa. We present an initial statistical analysis of the data and discuss radon measurement techniques used to date.

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