

## **A review on Radon monitoring for geological exploration**

**N. U. Khattak<sup>1</sup>, M. Asif Khan<sup>1</sup> and N. Ali<sup>2</sup>**

<sup>1</sup>National Centre of Excellence in Geology, University of Peshawar, Peshawar

<sup>2</sup>Physics Division, PINSTECH, Islamabad

Radon is a naturally occurring radioactive alpha particle emitting colorless, odorless and tasteless gas produced by radioactive decay of uranium and thorium. It plays a dual role in man's life, being a fatal health hazard to mine workers and common people living in their homes on one hand and a very useful geological tool on the other hand. As a geological tool, radon monitoring technique can be used in uranium and hydrocarbon exploration, earthquake prediction, study of active faults and geothermal energy sources. With this technique, fault zones have been recognized with fairly good precision worldwide. The technique can also be effectively used in hydrologic research, when studying the interactions between groundwater, streams, and rivers. It has found limited use in geothermal prospecting. As an enemy, the presence of high level of radon concentration in the indoor air of the houses and in the air of underground mines constitutes a serious health hazard, being a major cause of lung and stomach cancer.