

The Lay-Persons Affordable Radon Monitor

A new, low-cost gas detection technology offers near real-time, highly efficient monitoring of the colorless, odorless and dangerous radioactive element, Radon.

Radon poisoning in the home causes an estimated 21,000 deaths each year, according to the EPA, which is more than drunk driving, drowning, or house fires. Radon is a gaseous byproduct of the radioactive decay of Uranium that emits alpha radiation. While it is relatively harmless outside of the body, once it enters the lungs it bombards the lungs with radiation, eventually causing lung cancer. Radon is colorless and odorless, making it difficult to monitor or test for, requiring spectroscopic analysis or gas proportional counters. There is a need for a low-cost Radon detector that can be deployed similarly to carbon monoxide or smoke detectors to keep Radon at safe levels.

Researchers at Purdue University have developed a new Radon gas detector based on research done at Purdue for nuclear safety applications. This new detector is able to detect Radon in near real-time (seconds to minutes) with detection efficiency close to one hundred percent.

Advantages:

- Low cost
- Real-time detection

TRL: 5

Intellectual Property:

Provisional-Patent, 2012-08-05, United States | PCT-Patent, 2013-08-05, WO
| NATL-Patent, 2015-02-05, United States | CON-Patent, 2017-06-26, United States

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Category

Buildings, Infrastructure, &
Construction/Smart Building
Systems & Automation
GreenTech/Environmental
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Electrical Engineering, Radon Detection