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Exposure of LR-115 detectors at different distances from a wall

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Measurement of indoor radon ($Rn-222$) concentration is important due to the impact of radon on indoor air quality and consequent inhalation hazard. This work presents the results of the radon ($Rn-222$) measurements made with LR-115 solid state detectors in bare mode at different distances from two opposite walls within two rooms in a home located in the north of Lima. The rooms differ by the ventilation rate, during this work one of them remains completely closed and in the other a window is kept open. The exposure time is 2 months. Subsequently, all the detectors are chemically etched in NaOH 2.5 M solution at 60°C for 90 minutes, following a very well established protocol for indoor radon survey by the Research Group on Techniques of Nuclear Tracks of the Pontifical Catholic University of Peru, and later read automatically by Politrack system. Finally, the results show that the average radon concentration ($Rn-222$) in each room is similar. Besides, the radon concentrations vary for each measured position and has an oscillating behavior that decreases as the distance from the wall increases. Specifically, the highest radon concentrations are observed at 15 cm and 20 cm away from the wall. Lowest radon concentrations are observed at 30 cm and 45 cm away from the wall.

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