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# Assessment of Radon and Thoron exhalation rate from soil of historical city Panipat, India

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**Abstract :** Natural radioactivity exists everywhere on the earth and Uranium, thorium and potassium are the main source of radioactivity. Radon is the decay product of radium which depends upon the radioactivity in building materials. Radon exhalation rate from the building material is an important issue. The mass exhalation rate and surface exhalation rate have been estimated by means of SMART RnDuoin surface soil samples collected from the historical city Panipat and its surrounding areas.The mass exhalation rate and surface exhalation rate are varied from 14.82±0.3 to42.80±0.8mBq/kg/hand200.9 ± 61.5 to786.1 ± 116.8 mBq/$m^2$/s with average value 31.5 ± 0.8 mBq/kg/h and 467.5 ± 162.6 mBq/$m^2$/s, respectively.
**Keywords:** Radon, Thoron, Mass exhalation rate, Surface exhalation rate, Lung Cancer.

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