

## <sup>220</sup>Rn

Rutherford reported the observation of an activity from radium later identified as <sup>220</sup>Rn in the 1900 article “A radio-active substance emitted from thorium compounds” (1900Ru01). Thorium oxide samples were used to study the activity of the “emanation”: “...I have found that thorium compounds continuously emit radio-active particles of some kind, which retain their radio-active powers for several minutes. This ‘emanation,’ as it will be termed for shortness, has the power of ionizing the gas in its neighbourhood and of passing through thin layers of metals, and, with great ease, through considerable thicknesses of paper... The emanation passes through a plug of cotton-wool without any loss of its radio-active powers. It is also unaffected by bubbling through hot or cold water, weak or strong sulphuric acid. In this respect it acts like an ordinary gas... The result shows that the intensity of the radiation has fallen to one-half its value after an interval of about one minute.”

Adapted from reference (2013Fr09)

1900Ru01 E. Rutherford, *Phil. Mag.* **49**, 1 (1900).

2013Fr09 C. Fry and M. Thoennessen, *At. Data Nucl. Data Tables* **99**, 497 (2013).

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