

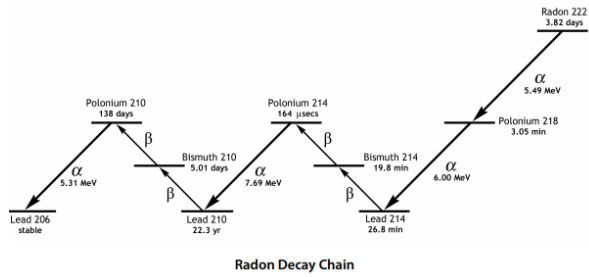
RAD7 Measurement

Saturday, July 7, 2018 9:32 PM

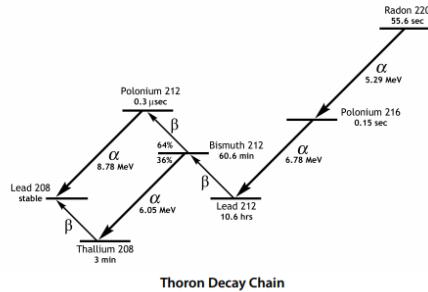
Principle of Operation	Electrostatic collection of alpha-emitters with spectral analysis Passivated Ion-implanted Planar Silicon detector SNIFF mode counts polonium-218 decays NORMAL mode counts both polonium 218 and polonium 214 decays
Built-In Air Pump	Nominal 1L/min flow rate Inlet and outlet Luer connectors
Connectivity	RS-232 port up to 19,200 baud rate USB adaptor is included with every RAD7
Measurement Accuracy	+/-5% absolute accuracy, 0% - 100% RH
Nominal Sensitivity	SNIFF mode, 0.25 cpm/(pCi/L), 0.0067 cpm/(Bq/m ³) NORMAL mode, 0.5 cpm/(pCi/L), 0.013 cpm/(Bq/m ³)

Appendix 2 RAD7 Specifications

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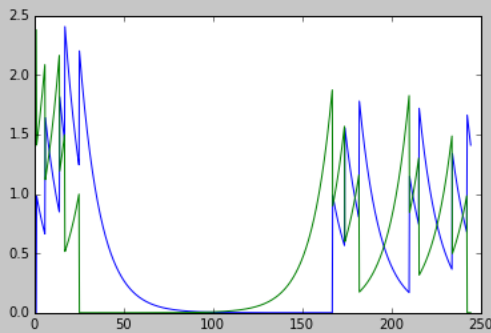


Radon Concentration Range	0.1 - 20,000 pCi/L (4.0 - 750,000 Bq/m ³)
Intrinsic Background	0.005 pCi/L (0.2 Bq/m ³) or less, for the life of the instrument
Recovery Time	Residual activity in Sniff mode drops by factor of 1,000 in 30 minutes
Operating Ranges	Temperature: 32° - 113°F (0° - 45°C) Humidity: 0% - 100%, non-condensing
Cycle Range	User controllable number of cycles, from 1 to 99 to unlimited, per run User controllable cycle time, from 2 minutes to 24 hours
CAPTURE Software	<ul style="list-style-type: none"> Compatible with Microsoft Windows 7 through 10, and macOS Automatic RAD7 connection and data download Graphs radon, thoron, temperature and humidity over time Automatic humidity correction Statistical analysis tools track concentration averages and uncertainties Chart Recorder mode provides real-time RAD7 status monitoring Control RAD7 operations from computer via direct or remote connection Automatic calculation and display of radon in water with optional accessories Automatic combination of data from multiple RAD7s



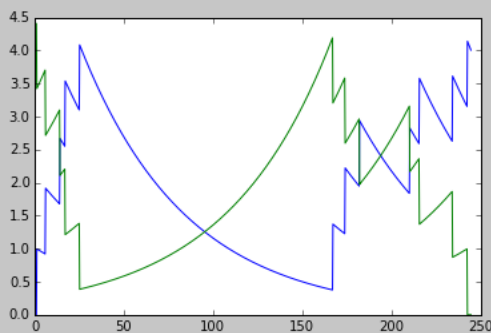
Number of Thoron atoms seen at outlet. Proportional to the thoron activity

FlowRate: 0.1 Lpm Inlet: 1st stage / Outlet: 2nd stage Rate: 1.41
FlowRate: 0.1 Lpm Inlet: 2nd stage / Outlet: 1st stage Rate: 2.19



Number of Thoron atoms seen at outlet. Proportional to the thoron activity

FlowRate: 0.5 Lpm Inlet: 1st stage / Outlet: 2nd stage Rate: 4.01
FlowRate: 0.5 Lpm Inlet: 2nd stage / Outlet: 1st stage Rate: 4.34

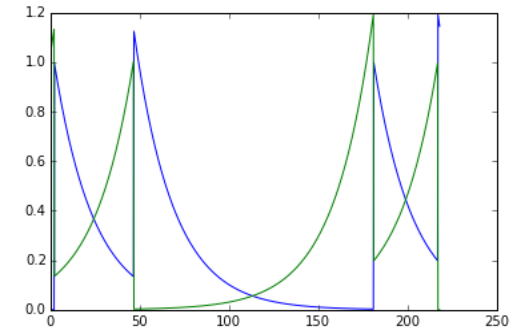


Number of Thoron atoms seen at outlet. Proportional to the thoron activity

FlowRate: 1.0 Lpm Inlet: 1st stage / Outlet: 2nd stage Rate: 5.81
FlowRate: 1.0 Lpm Inlet: 2nd stage / Outlet: 1st stage Rate: 5.80

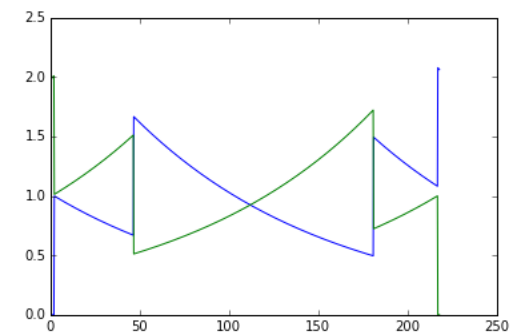
Number of Thoron atoms seen at outlet. Proportional to the thoron activity

FlowRate: 0.1 Lpm Inlet: 2nd stage / Outlet: tube out Rate: 1.41
FlowRate: 0.1 Lpm Inlet: tube out / Outlet: 2nd stage Rate: 2.19



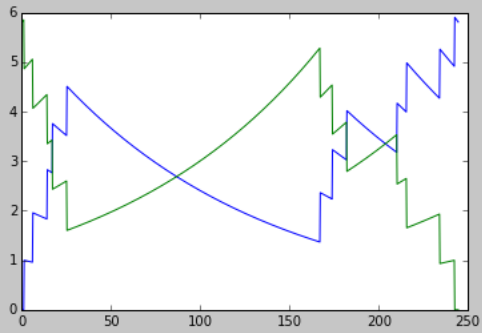
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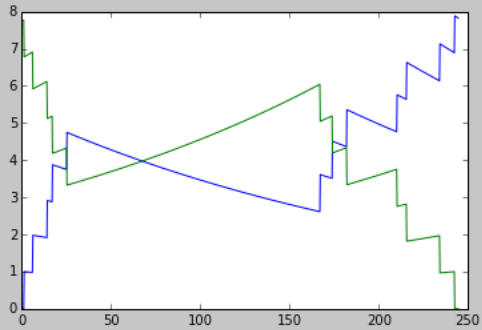
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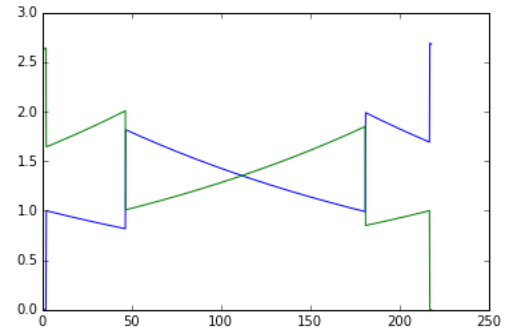
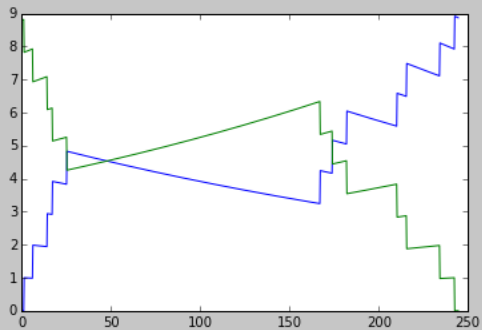
Number of Thoron atoms seen at outlet. Proportional to the thoron activity

FlowRate: 2.0 Lpm Inlet: 1st stage / Outlet: 2nd stage Rate: 7.82
FlowRate: 2.0 Lpm Inlet: 2nd stage / Outlet: 1st stage Rate: 7.74



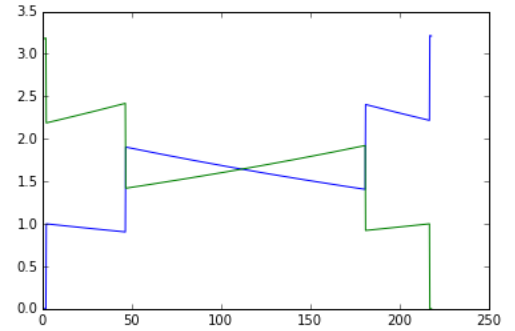
Number of Thoron atoms seen at outlet. Proportional to the thoron activity

FlowRate: 3.0 Lpm Inlet: 1st stage / Outlet: 2nd stage Rate: 8.87
FlowRate: 3.0 Lpm Inlet: 2nd stage / Outlet: 1st stage Rate: 8.79



Number of Thoron atoms seen at outlet. Proportional t
FlowRate: 2.0 Lpm Inlet: 2nd stage / Outlet: tube out

FlowRate: 2.0 Lpm Inlet: tube out / Outlet: 2nd stage



Number of Thoron atoms seen at outlet. Proportional t
FlowRate: 3.0 Lpm Inlet: 2nd stage / Outlet: tube out

FlowRate: 3.0 Lpm Inlet: tube out / Outlet: 2nd stage

