

Rubidium as THE Radioactive Minimal Standard - v3 sgm, 2018/SEP/17

detector: CAJOE version GMj3 (with external GM-tube)
background/cosmic-ray: 0.14046(r) μ SV/hr, 48 hour s.p.
BG/c-r + Rb: 0.1433 μ SV/hr, 92.13(r) hour s.p.

=> Rb(1g): 0.0004*** μ SV/hr

=> $10^{-6} = f_n^*$, *fraction of nuclei of a solid sample*,
such as a cube of Rb with a GC-GM tube on one face,
observed disintegrate

*based on reported** 670Bq/g \Leftrightarrow 402 μ SV/hr
counting ALL nuclei in 1g

NOTE: this is for β -decay ONLY

f_n will be *different* for α and γ

**<https://en.wikipedia.org/wiki/Rubidium>

***3-run average, f_n adjusted

A few days ago, God inspired this brief article, but she wants *me* to take credit because of her core attribute, humility. I had two genuine candidates on my somewhat lengthy list: ^{87}Rb and ^{115}In . The latter is 96% unstable with half-life approximately 10^{14} . I purchased some, very inexpensive, and attempted to accurately measure its activity. "Impossible." The reason is the **fact** its activity level is **below** that of cosmic rays, 82 CPM. You'd have to be in a lead-walled room with walls **several meters thick** of lead – to minimize cosmic rays – to the point they'd become negligible. I should have said several **hundred** meters thick. 0.0 Which is why I used the word "impossible" above.

Now, ^{87}Rb is down to 28% unstable BUT half-life is ONLY 10^{10} . 0.0 which means it's actually **measurable!** The activity level is 92 CPM stated at the beginning of the article (version 1); the title is **longer** in characters than lines-of-text within. Now I know FOR SURE she doesn't waste ANYthing.

"one two, tickle my shoe..
three four, close the door..
what are we waiting for?!"