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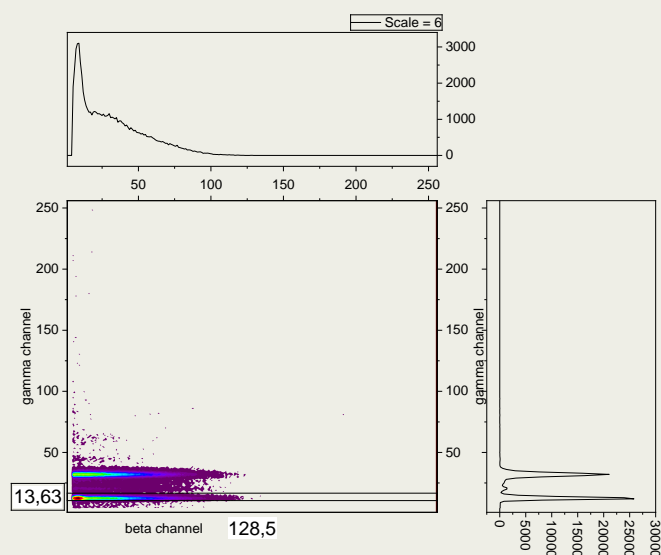
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Modern radioxenon detection systems exhibit a low memory effect. For example, the MIKS plastic detector cell has a memory effect coefficient of less than 5%. However, even low levels of memory effect can affect measurement results. To account for this, the gas background is measured separately and incorporated into the calculation of sample activity.

We believe that in order to correctly take into account the detector's gas background, it is necessary to perform additional calibration for the gas background. The difference in spectra can be significant.

Only the method of simultaneous fitting can give a correct result. We must fit the spectrum of the sample and the gas background simultaneously with different calibration matrices  $R_s \neq R_g$

### $\beta$ - $\gamma$ spectra from a sample



### $\beta$ - $\gamma$ spectra from a gas background

