ATTENUATION OF ELECTROMAGNETIC IONISING RADIATION

Name: .....

Group:.....

Date: .....

1. Goal of the experiment: .....

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2. Source of radiation: ....., energy of quanta: .....

3. Measurement of radiation background:
   a) radiation background counting time t' = ...
   b) radiation background counting rate $a \pm \Delta a =$ .....

THE FIRST ABSORBER: .....

Absorber density: $d \pm \Delta d =$ .....

4. Measurements of the counting rate versus thickness x of the absorber layer

   (counting time t =.....):

	Absorber thickness x	Counting rate a_x	Δa_x	$\ln a_x$	$\Delta \ln a_x$*
	..... *unit*	..... *unit*	..... *unit*		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

* $\Delta \ln a = \ln(a + \Delta a) - \ln a$

Make a graph of the function $a_x = f(x)$ and $\ln a_x = f(x)$ for the first absorber.

Properties of the first absorber:

	half-value layer	linear attenuation coefficient	mass attenuation coefficient
$a = f(x)$			
$\ln a = f(x)$			

THE SECOND ABSORBER: .....

Absorber density $d \pm \Delta d =$ .....

5. Measurements of the counting rate versus thickness *x* of the absorber layer

(counting time *t* =.....):

	Absorber thickness *x*	Counting rate a_x	Δa_x	$\ln a_x$	$\Delta \ln a_x$*
	..... *unit*	..... *unit*	..... *unit*		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

* $\Delta \ln a = \ln(a + \Delta a) - \ln a$

Make a graph of the function $a_x = f(x)$ and $\ln a_x = f(x)$ for the second absorber.

Properties of the second absorber:

	half-value layer	linear attenuation coefficient	mass attenuation coefficient
$a = f(x)$			
$\ln a = f(x)$			

Conclusions: .....

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