Example of splitting the data on the x-axis, to see two scales

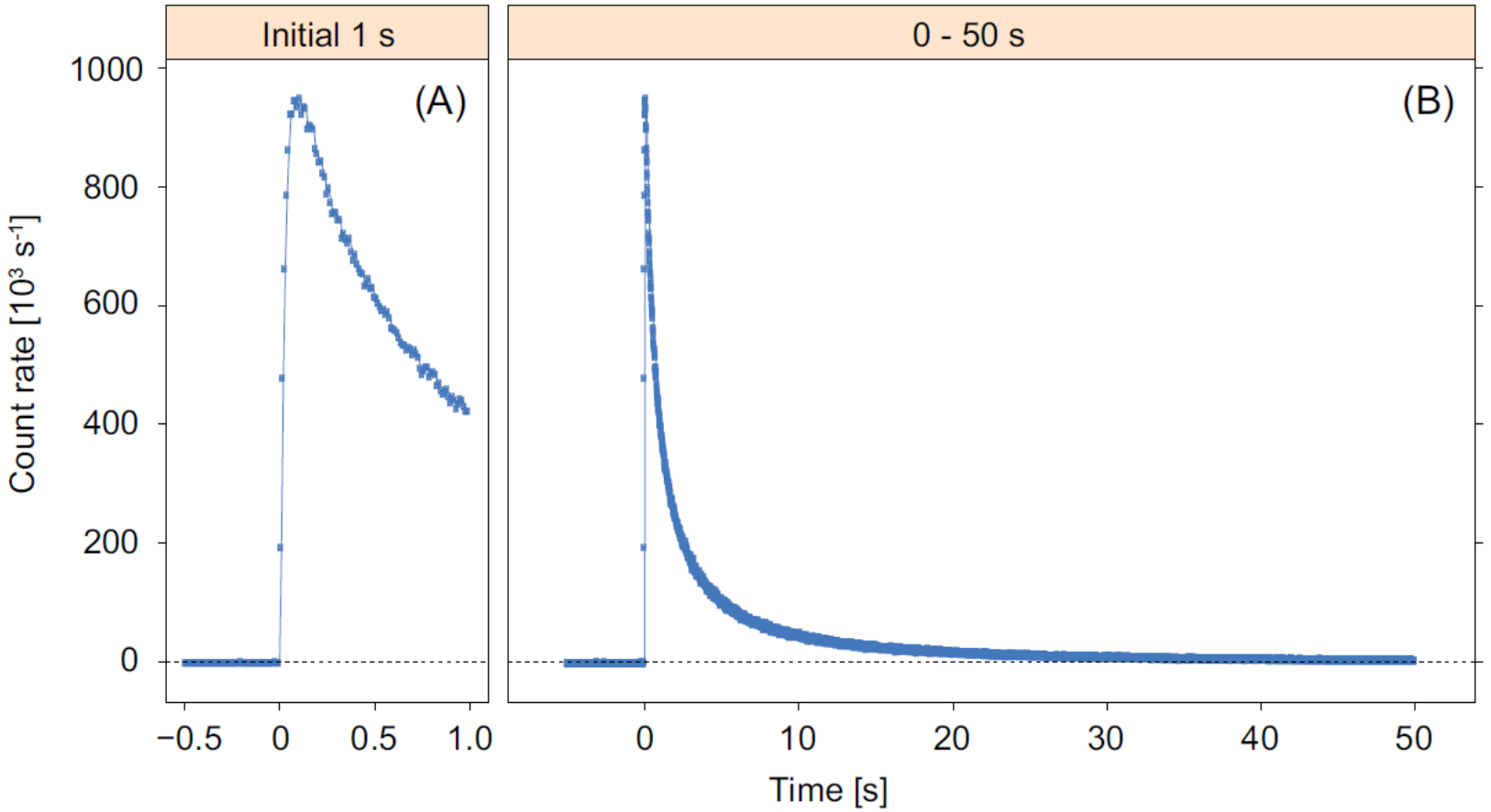
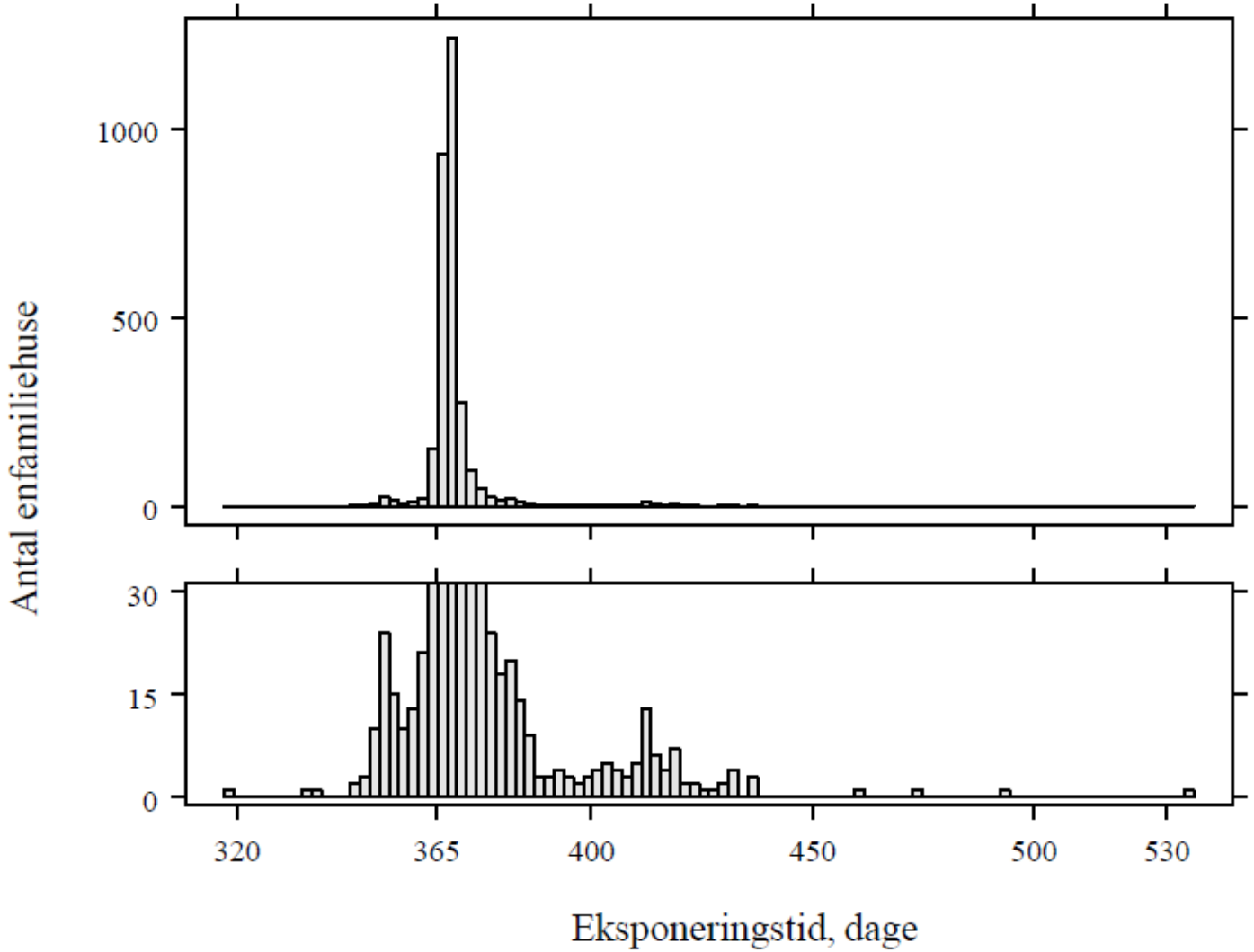


Figure 20.3: OSL decay curve for Al_2O_3:C during stimulation with green light (532 nm) and detection in a narrow band about 420 nm.

Example of splitting the data on the y-axis, to see two scales (both peak and base of the histogram are important).

Radon survey data



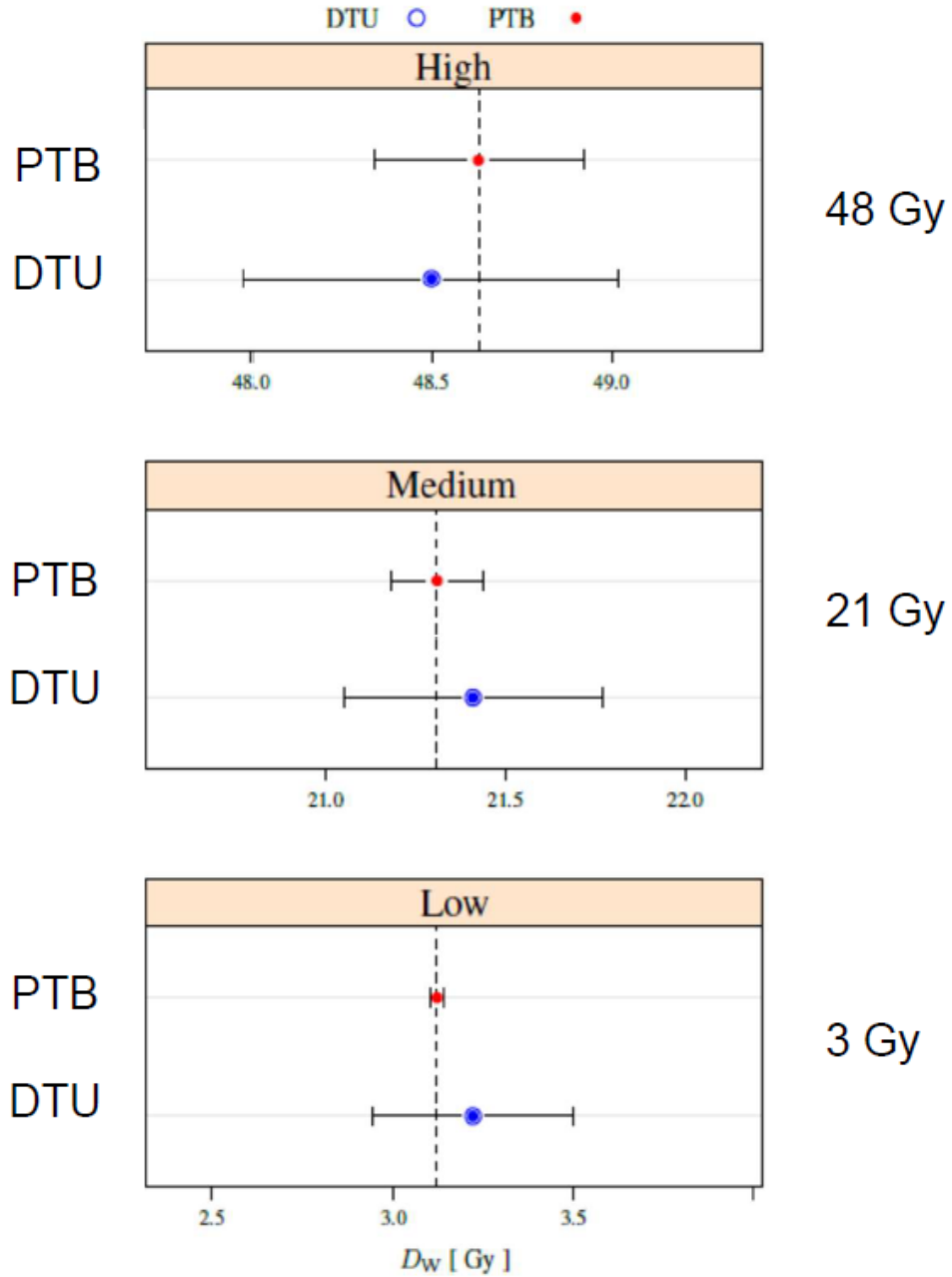
Figur 65. Fordeling af eksponeringstiden for radonmålingerne i de 3019 enfamiliehuse. Hovedparten af målingerne tog et år (svarende til 365 dage). En del målinger afveg dog en del herfra, hvilket fremgår af det nederste plot, som er begrænset til kun at vise data for grupper med mindre end 30 huse i hver.

Example of splitting the data on ”individual points”

k=2 error bars

Comparison

PTB cobalt ref. irradiation
vs.
DTU alanine dos.
(cobalt-60)



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Why I almost always use the lattice package for plotting (and not ggplot2)!

Lattice facilitates the combination of graphics and statistical analysis / numerical output.

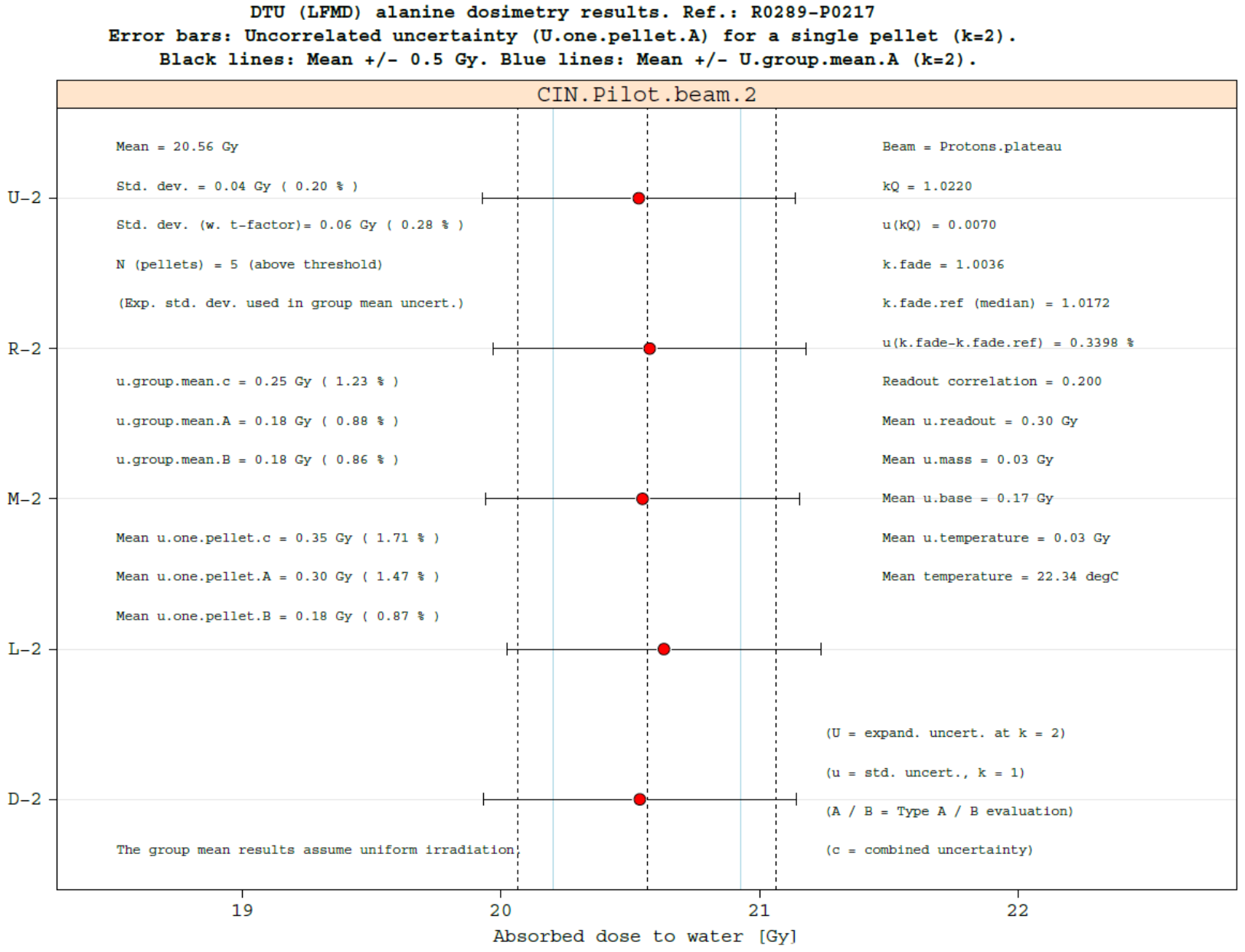
The plot to the right is for our alanine dosimetry procedure. It is created automatically whenever we do an analysis. It is for "work", not publication. We have all data at a glance.

The main features of lattice over ggplot2 for **technical work** are:

1. Lattice splits the data, and sets up all coordinate systems. You can then directly analyze these data and print the results within each panel or add graphical elements driven by the data (see Bragg-peak plot example). In ggplot2 you have to split the data yourself in a separate analysis and then hope that they later end up in the correct panels.

2. In lattice you can place text within each panel using relative coordinates (among many other options).

3. In lattice you can easily control the limits for different panels using e.g. the scales ="sliced" argument. If you want each panel to cover the mean +/- 1 %, you just make a prepanel:




```
prepanel = function(x, y, type, subscripts, groups, ...){ list(ylim = mean(y,na.rm=TRUE)*c(0.99,1.01)) }
```

”Bragg-peak plot”

Note how the position of the sd print out is driven by the data plotted in each individual panel.

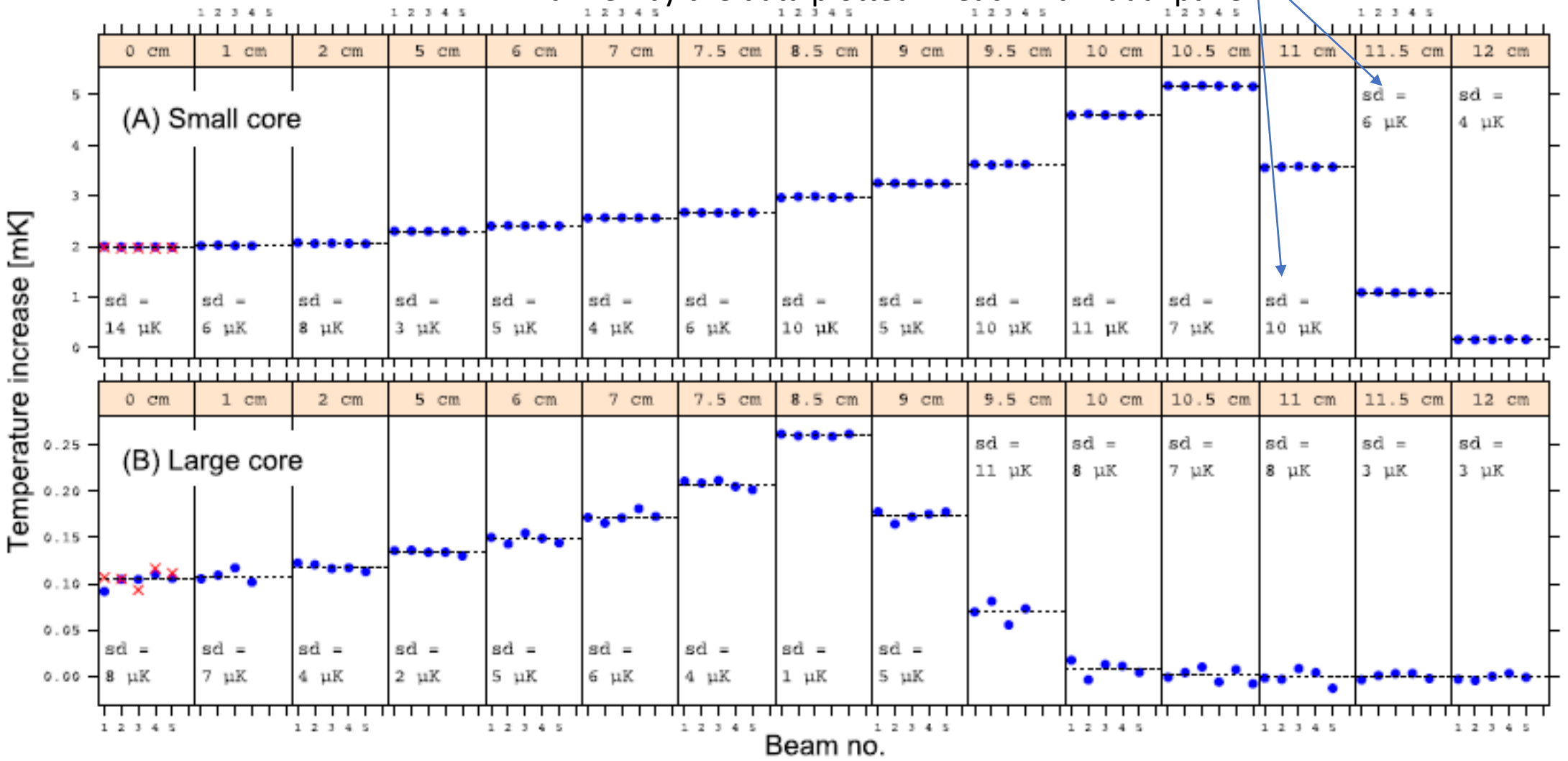


Fig. 4. The temperature increase of the (a) small graphite core and (b) large graphite core upon irradiation with the 170 MeV proton beam. The width of the solid water in front of the calorimeter was varied between $L = 0$ and $L = 12$ cm where each measurement was repeated 4–6 times. The first measurement at $L = 0$ (circle markers) was repeated as the last measurement (cross markers).

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