Supplementary Figures to:

Assessment of $^{222}$Radon progeny loss in long tubing based on static filter measurements in the laboratory and in the field

Ingeborg Levin¹, Dominik Schmithüsen¹, Alex Vermeulen²

¹Institut für Umweltphysik (IUP), Heidelberg University, 69120 Heidelberg, Germany
²Energy research Centre of the Netherlands (ECN), 1755LE Petten, The Netherlands, now at: ICOS ERIC - Carbon Portal, Lund, Sweden

Correspondence to: Ingeborg Levin (Ingeborg.Levin@iup.uni-heidelberg.de)
Supplementary Figures S1-S9:

Evaluation of $^{214}$Po activity concentrations using the empirical correction functions Eqs. 1 and 2 for loss of $^{222}$Rn progeny in Decabon tubing of 8.2 mm ID and various lengths (16 m to 200 m). The upper left panels show the ratios between the line test monitor (LTM) sampling air via the Decabon tubing and the routine monitor (HD-R) sampling via a 0.5m Teflon tube, the lower left panels show the same ratio after correction of the LTM activities, the upper right panels show the correlation between HD-R and corrected LTM activity concentrations, the lower right panels display the residuum of activity concentrations from the fitted regression lines in the upper right panels.
52m LTM correction and evaluation

- Uncorrected LTM activity concentration vs. corrected LTM activity concentration
- HDR activity concentration
- Corrected residual activity concentration
- York fit parameters: intercept = -0.134, slope = 0.0002, error = 0.0155

- Data points and fit lines
- 1:1 line for reference
82m LTM correction and evaluation

![Graphs showing uncorrected and corrected LTM activity concentrations with regression analysis.](image-url)
100m LTM correction and evaluation

- Graph 1: Uncorrected LTM activity concentration vs. corrected LTM activity concentration.
- Graph 2: HCR activity concentration vs. corrected LTM activity concentration.
- Graph 3: Comparison of half-hourly data, York fit, and 1:1 line for corrected LTM activity concentration.

Table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>York fit</td>
<td>-0.0534</td>
<td>1.6414</td>
<td>0.0042</td>
</tr>
</tbody>
</table>

Legend:
- half-hourly data
- York fit to corrected data
- 1:1 line
130m LTM correction and evaluation
200m LTM correction and evaluation

![Graphs showing corrected and uncorrected LTM activity concentrations]

- **Yield**:
  - Intercept: -0.30263
  - Slope: 0.65617

- Plotting data includes:
  - Half-hourly data
  - York fit to corrected data
  - 1:1 line