

Comparison of calibration sources – part 2

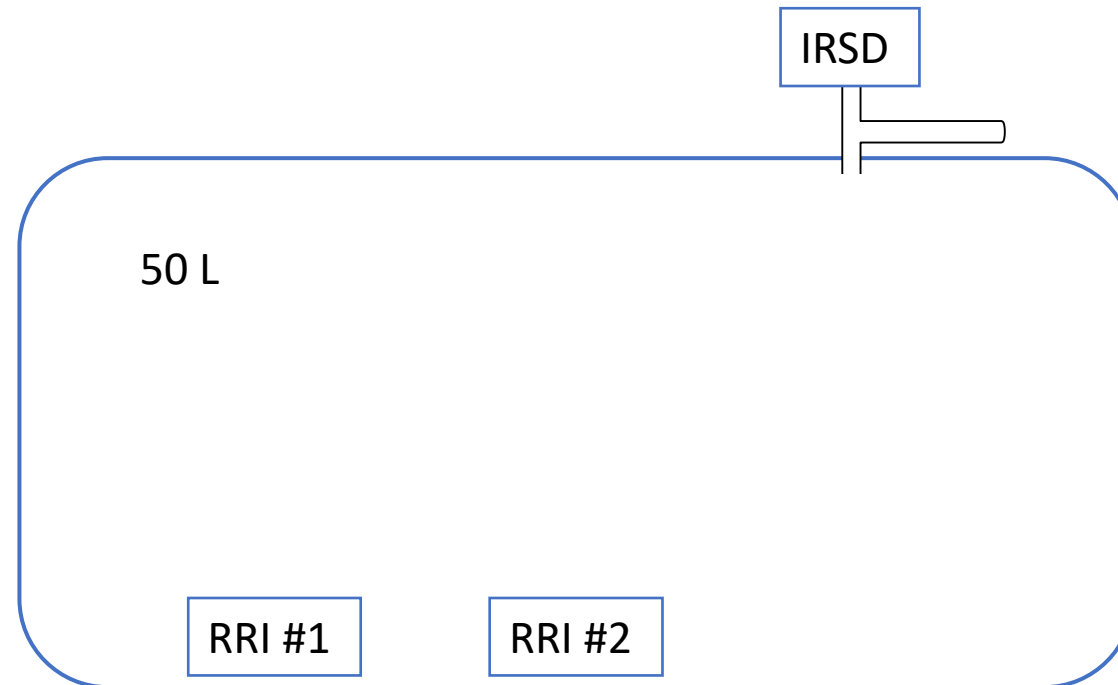
EMPIR 19ENV01 traceRadon

This project 19ENV01 traceRadon has received funding from the EMPIR programme co-financed by the Participating States and from the European Union's Horizon 2020 research and innovation programme. 19ENV01 traceRadon denotes the EMPIR project reference.

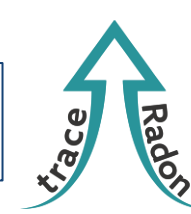
T.J. Ballé traceRadon – Scientific Workshop



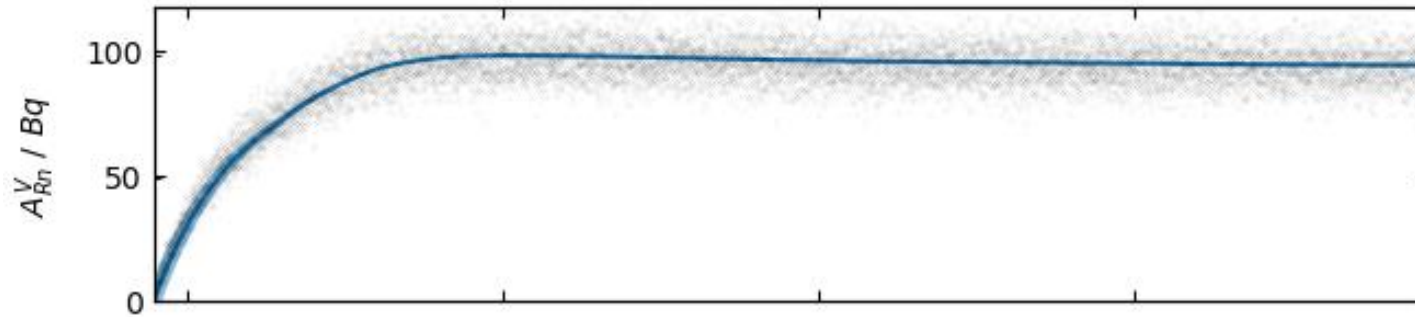
Setup at PTB



Measurements with IRSD for RRI #1



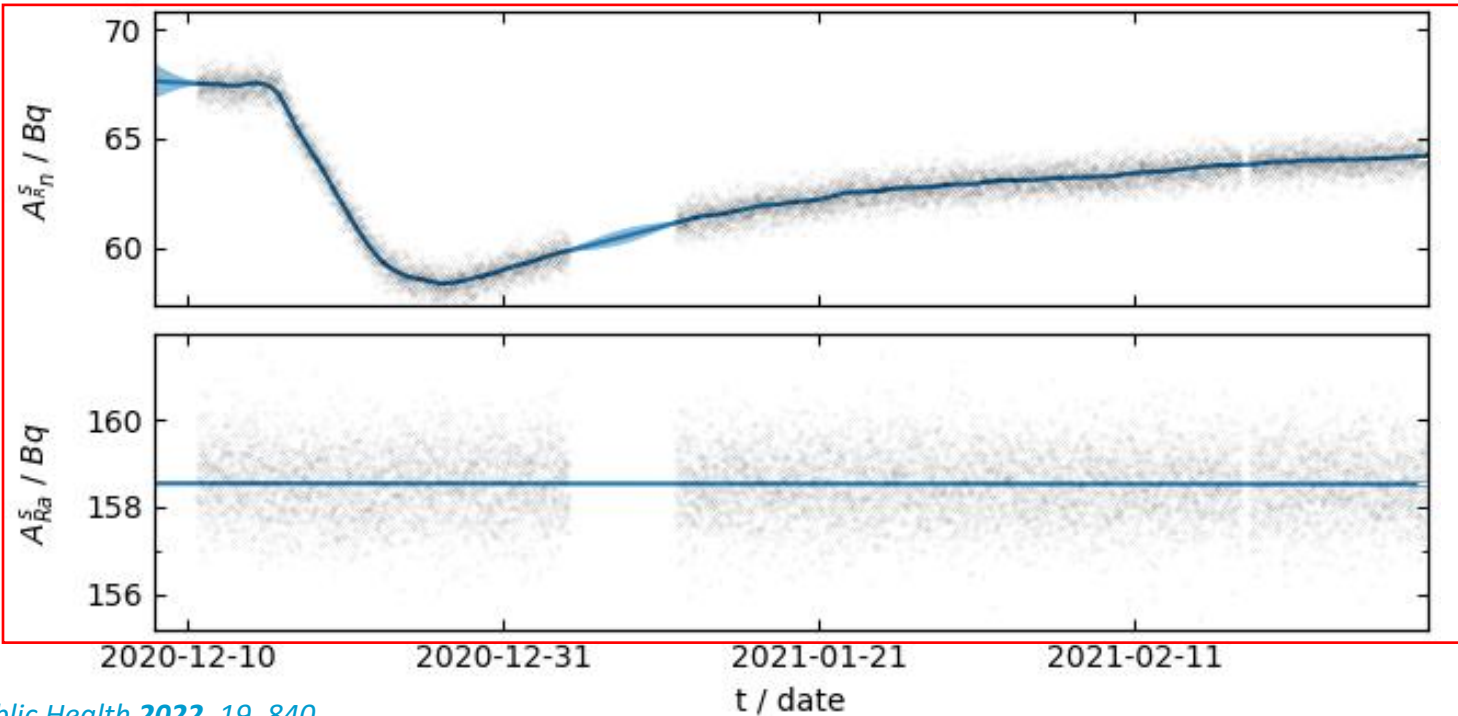
Measured by
Reference
Instrument



Blue:
calculated

Gray:
measured

Measured by
IRSD

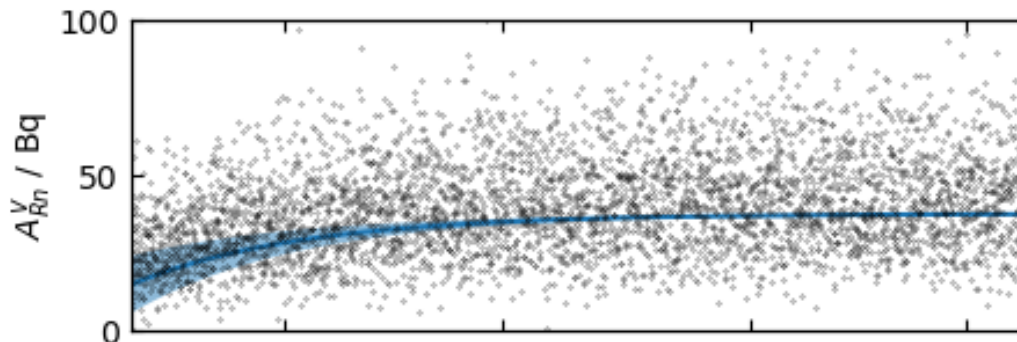


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Measurements with IRSD for RRI #2



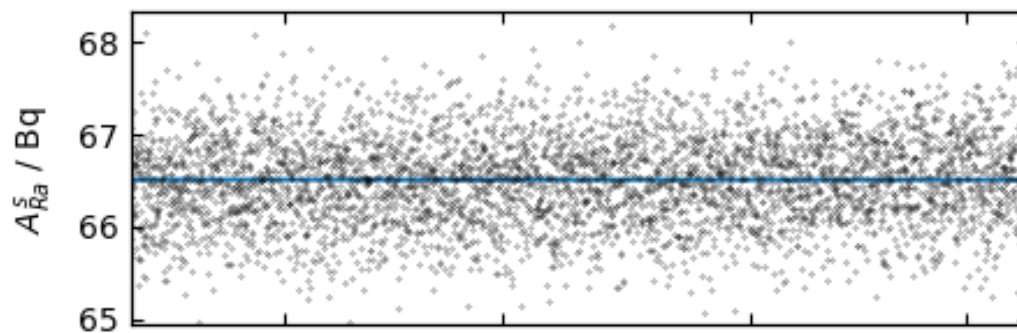
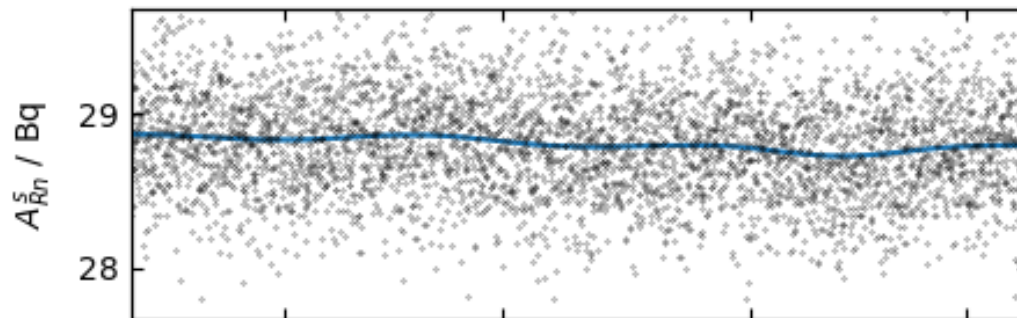
Measured by
Reference
Instrument



Blue:
calculated

Gray:
measured

Measured by
IRSD



2022-03-29 2022-04-05 2022-04-13 2022-04-20

t / date



Setup at PTB



50 L

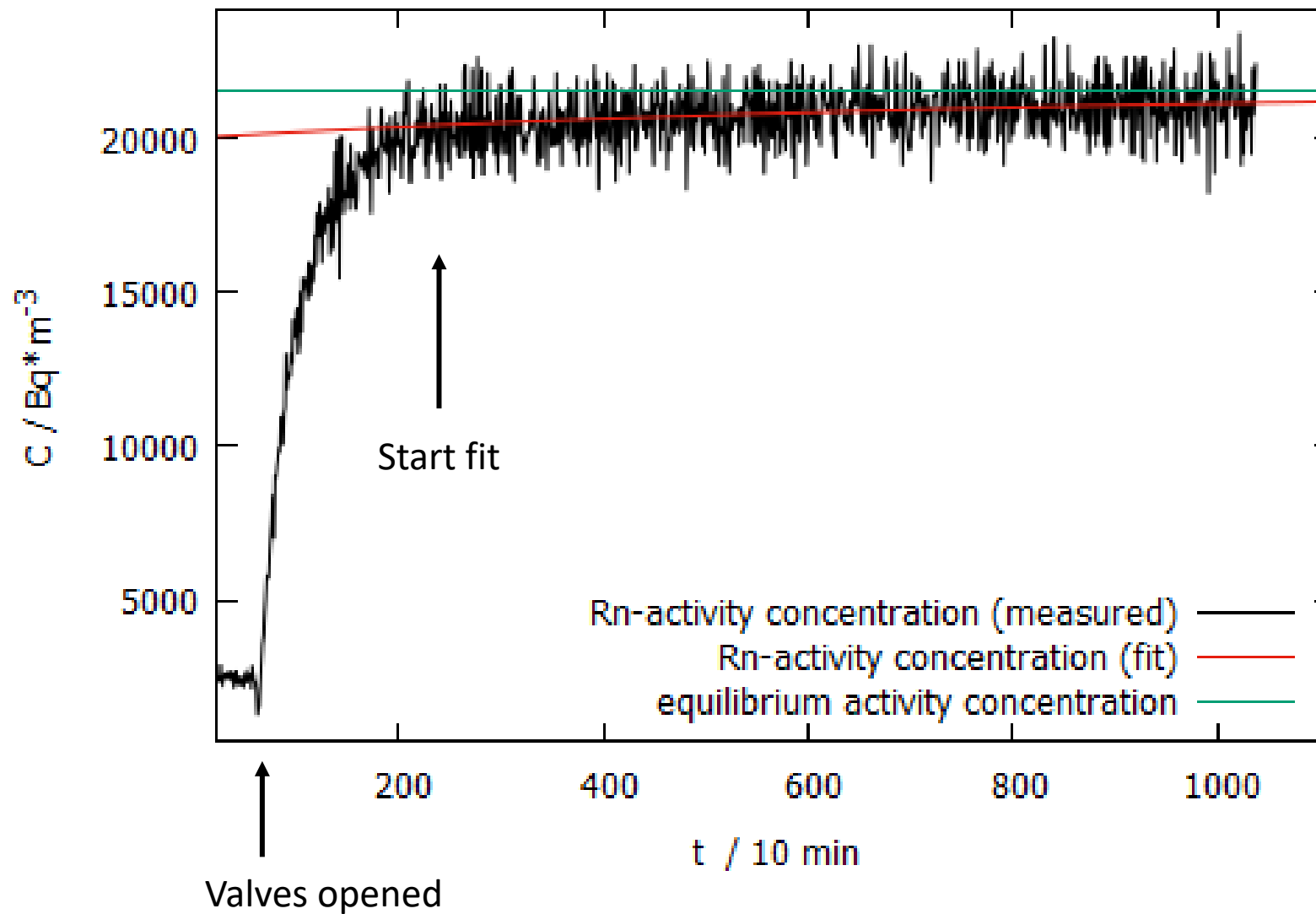
RRI #1

RRI #2

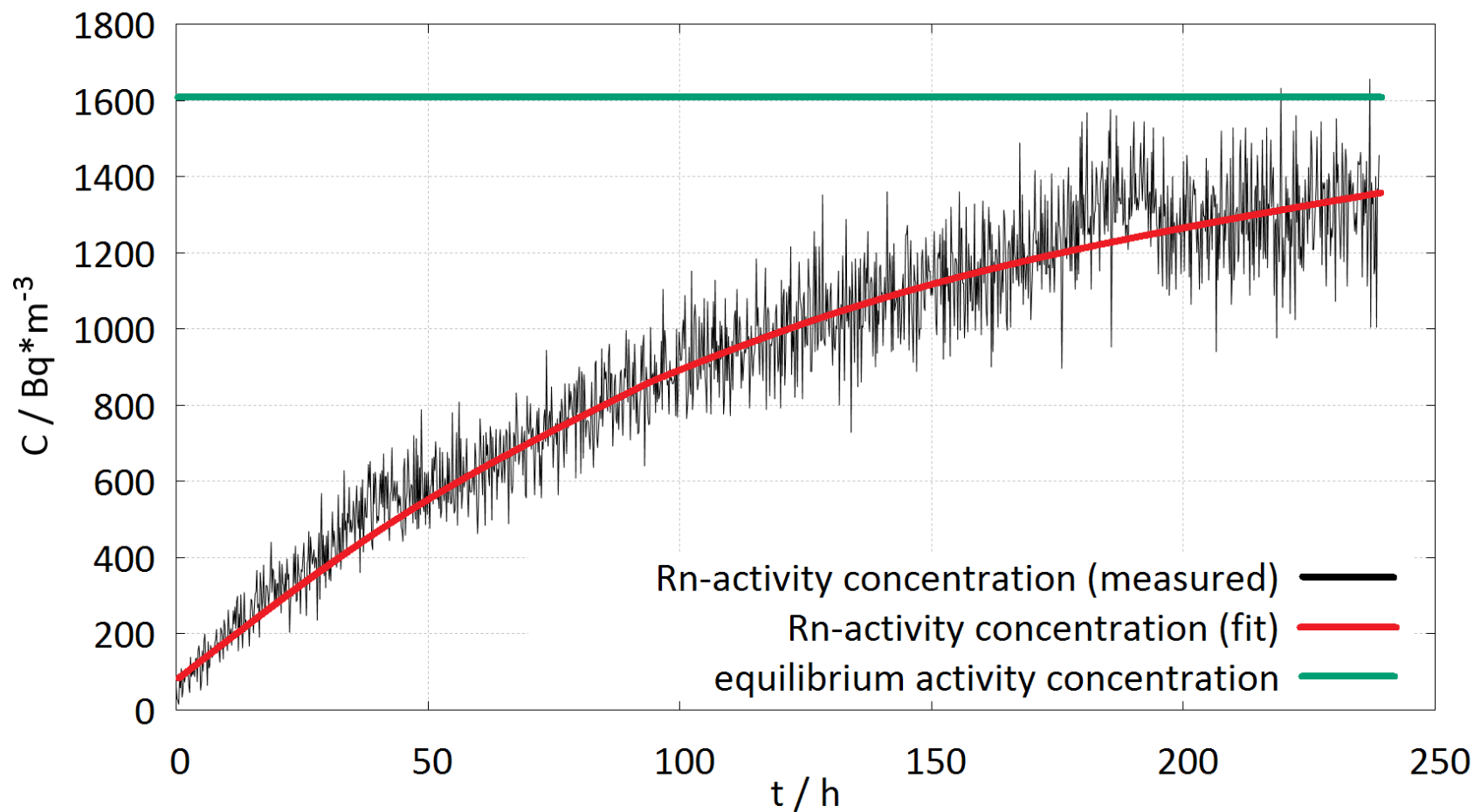
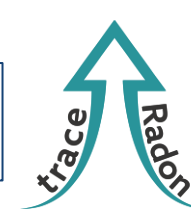
CMI-source



Measurements with CMI-source for RRI #1



Measurements with CMI-source for RRI #2



Comparison



SUJCHBO	CMI source		PTB IRSD system		
	k_{CMI}	C (Bq·m ⁻³)	k_{IRSD}	C (Bq·m ⁻³)	
RRI (laboratory conditions)	0.95 ± 0.01	80	0.88 ± 0.04*	22.8	
RRI (outdoor conditions)	1.13 ± 0.14	129.8	-	-	

PTB	CMI source		PTB IRSD system		
	k_{CMI}	C (Bq·m ⁻³)	k_{IRSD}	C (Bq·m ⁻³)	
RRI #1	1.056 ± 0.019	21547	1.019 ± 0.015	1925	0.965
RRI #2	1.022 ± 0.017	1605	0.981 ± 0.015	56.3	0.960

*: The uncertainty is higher than determined by PTB due to the detector within the IRSD not being used.





Transfer Standards

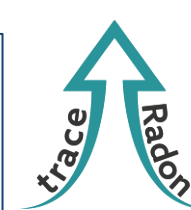
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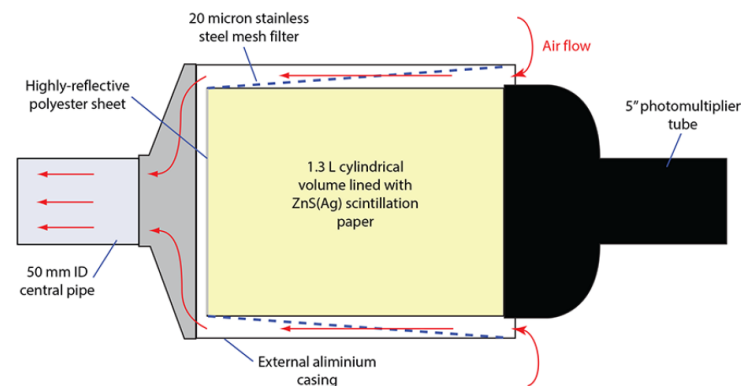
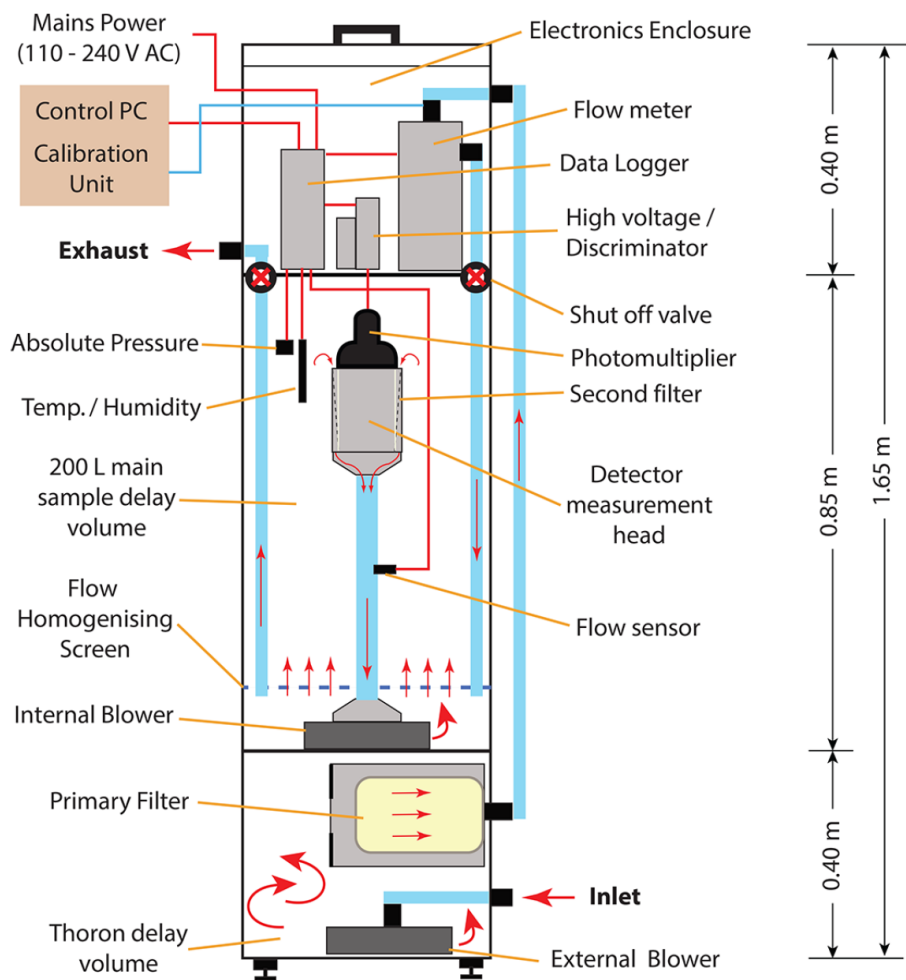
T.J. Ballé

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Australian Nuclear Science and Technology Organization (ANSTO) ANSTO-detector



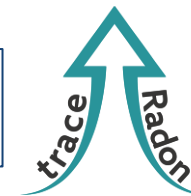
ANSTO-detector - Setup



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Next



ARMON-detector (Roger Curcoll) Implementation at Saclay (Marta Fuente)



Now: Lab tour to Alpha and Gamma Spectrometry
(Me and Anja Honig)

Next: Lunch at PTB canteen

Included for visitors:

- 1 Salad, soup or dessert
- 1 of 3 main dishes:
 - Lentil stew with a "bockwurst" sausage (pork or poultry) and a bread roll
 - Pulled pork burger with iceberg lettuce, tomatoes, cucumbers and cheese. Served with salsa and potato wedges
 - Pan-fried mushrooms with onions, gourmet broccoli and potatoes (vegan)
- 1 Beverage

