

Repeatability and reproducibility of microdosimetry with a mini-TEPC

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Can **MICRODOSIMETRY** be used as radiation quality monitor in proton therapy?

Fast and reproducible LET and RBE assessment

HOW?

Mini

Tissue Equivalent Proportional Counter

WHERE?

62 MeV CATANA SOBP

WHEN?

October 2018

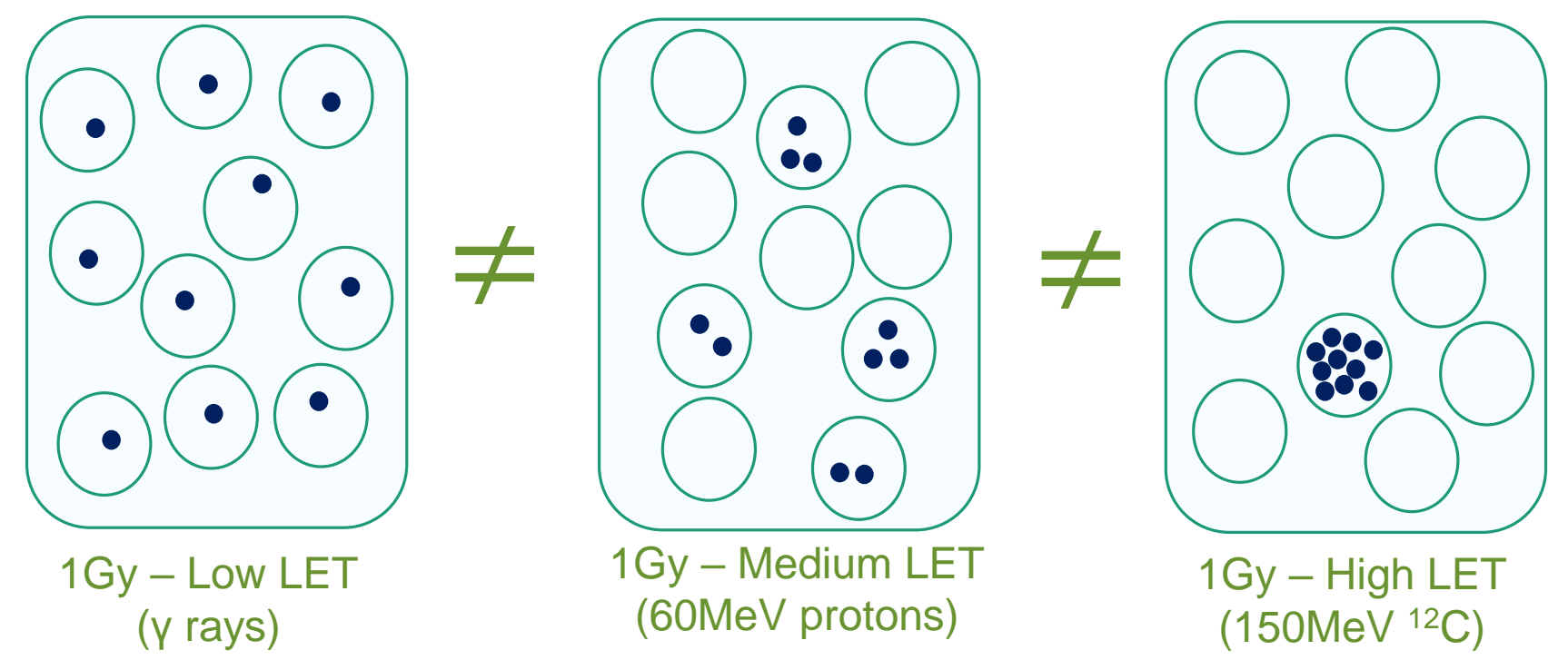
December 2018

February 2019

October 2019

WHAT?

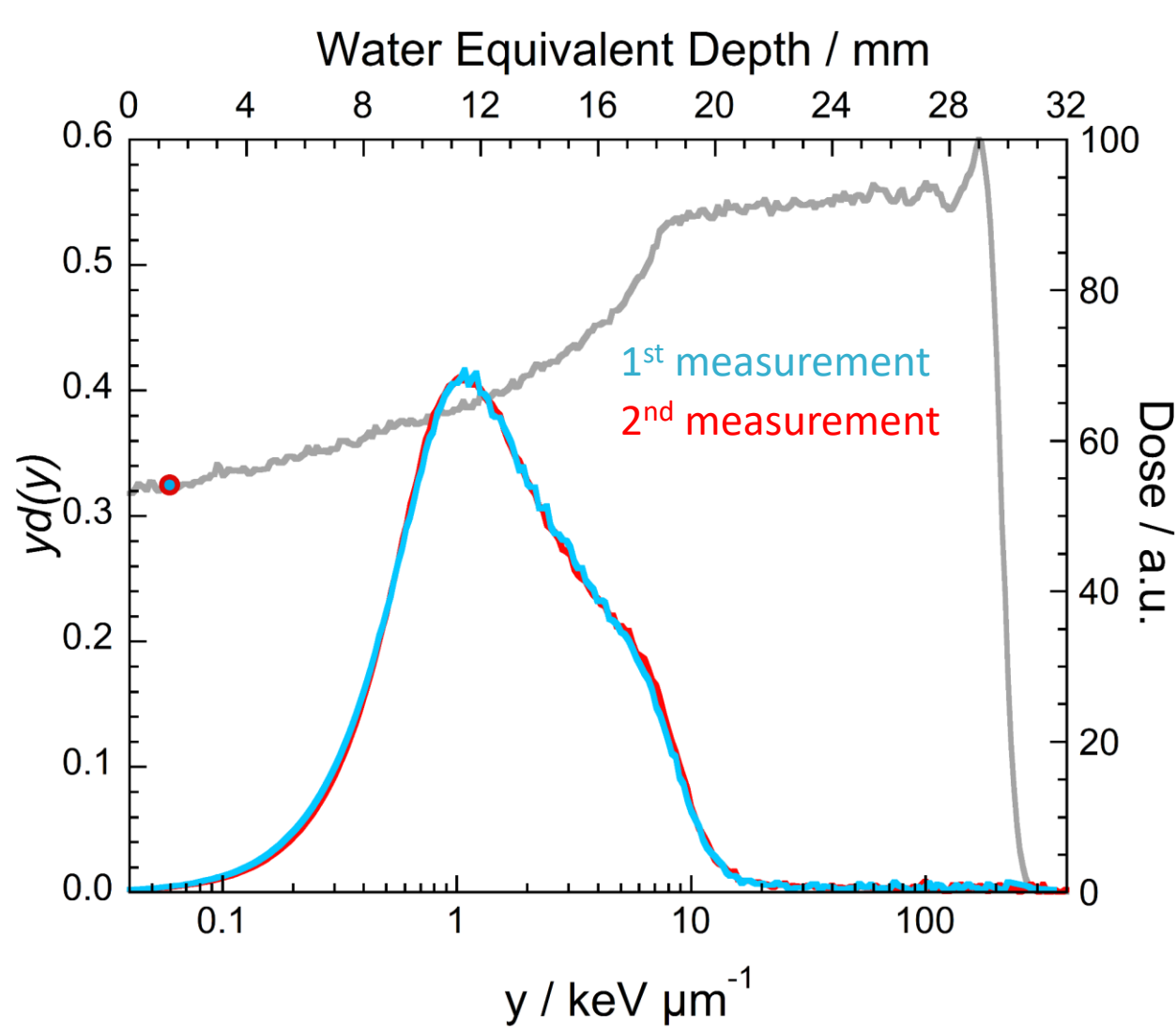
Reproducibility of its response to apply it in clinics.



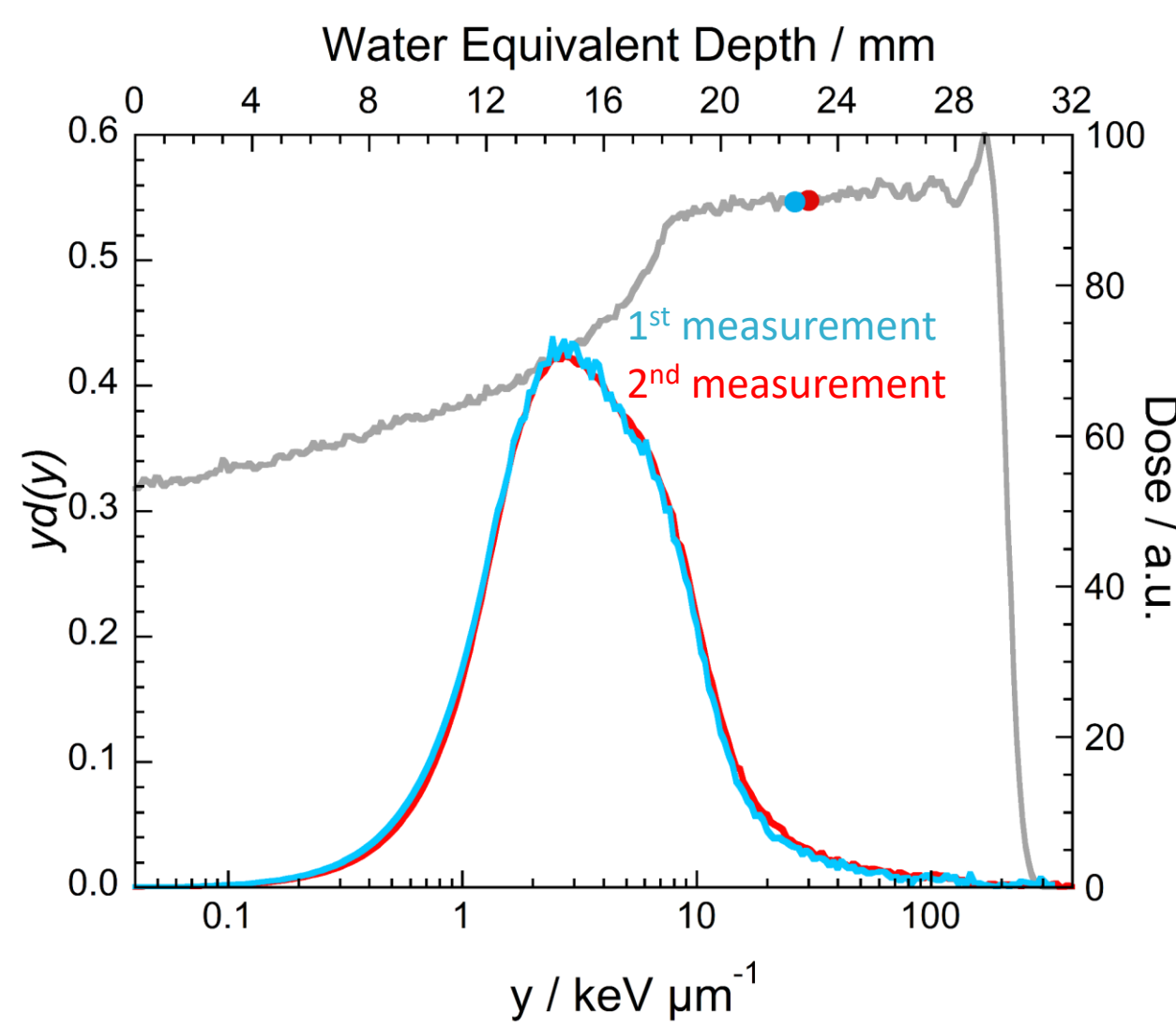
Stochastic of energy deposit

Spectral Analysis

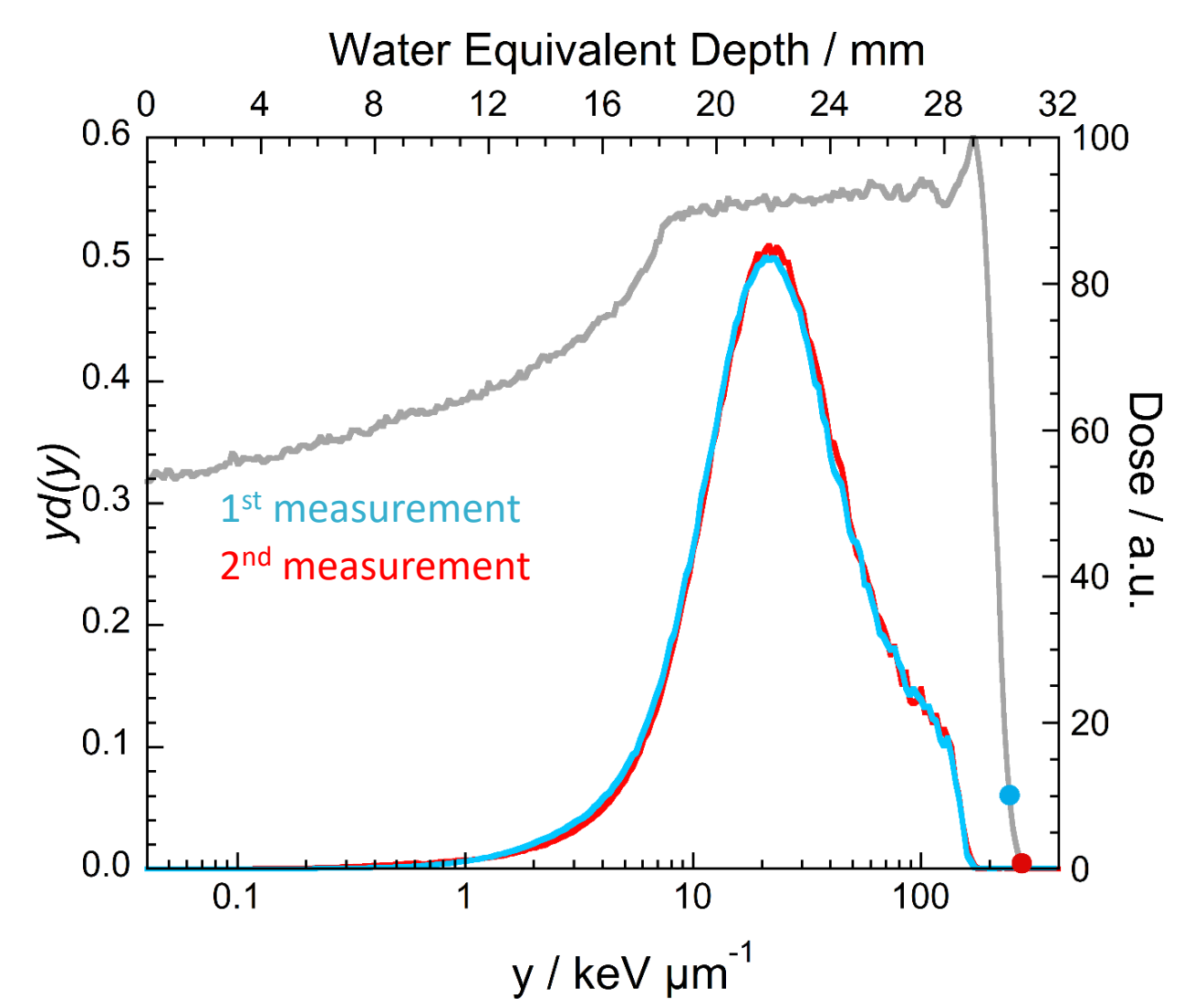
Entrance



Mid SOBP



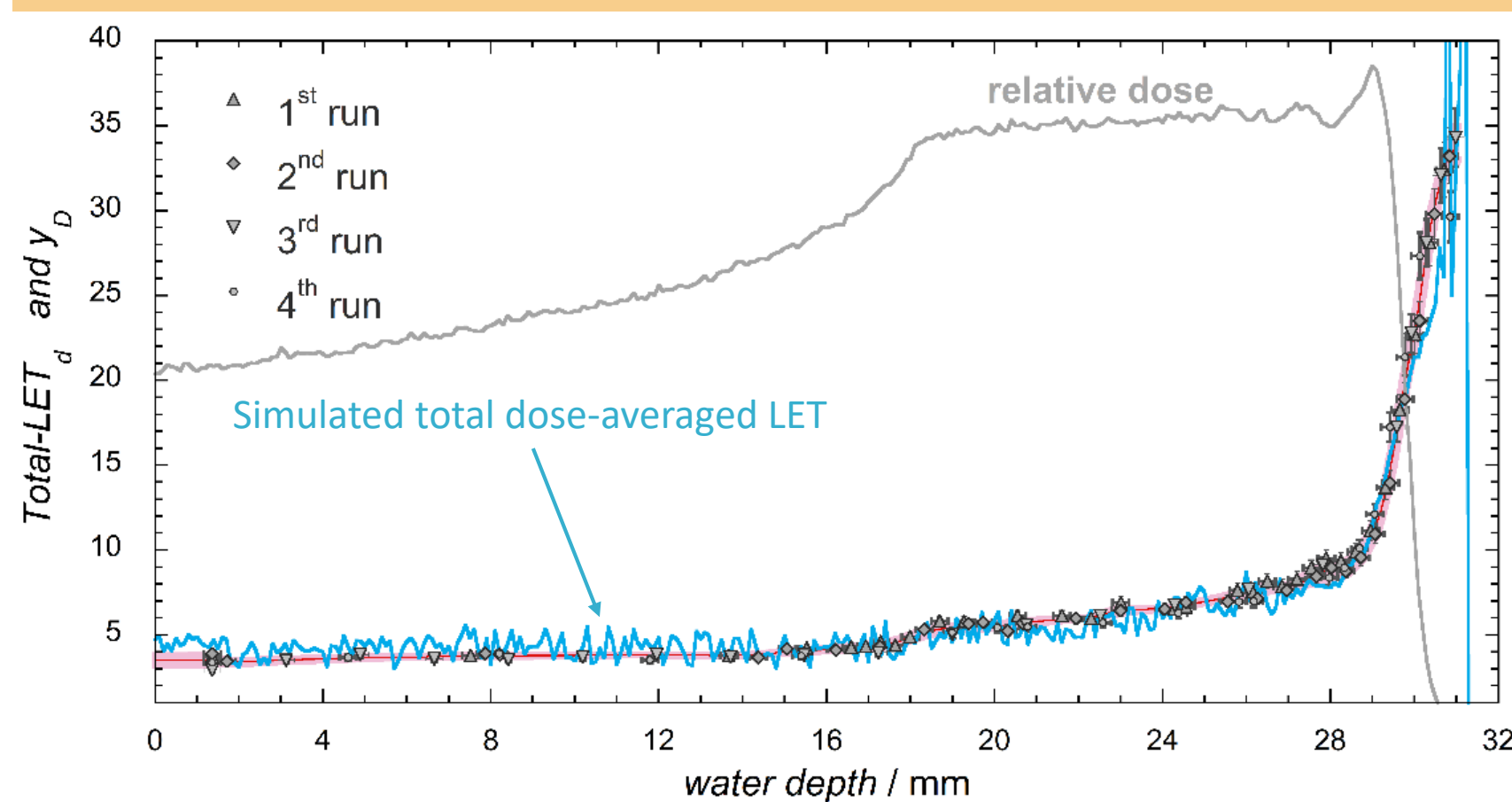
Fall off



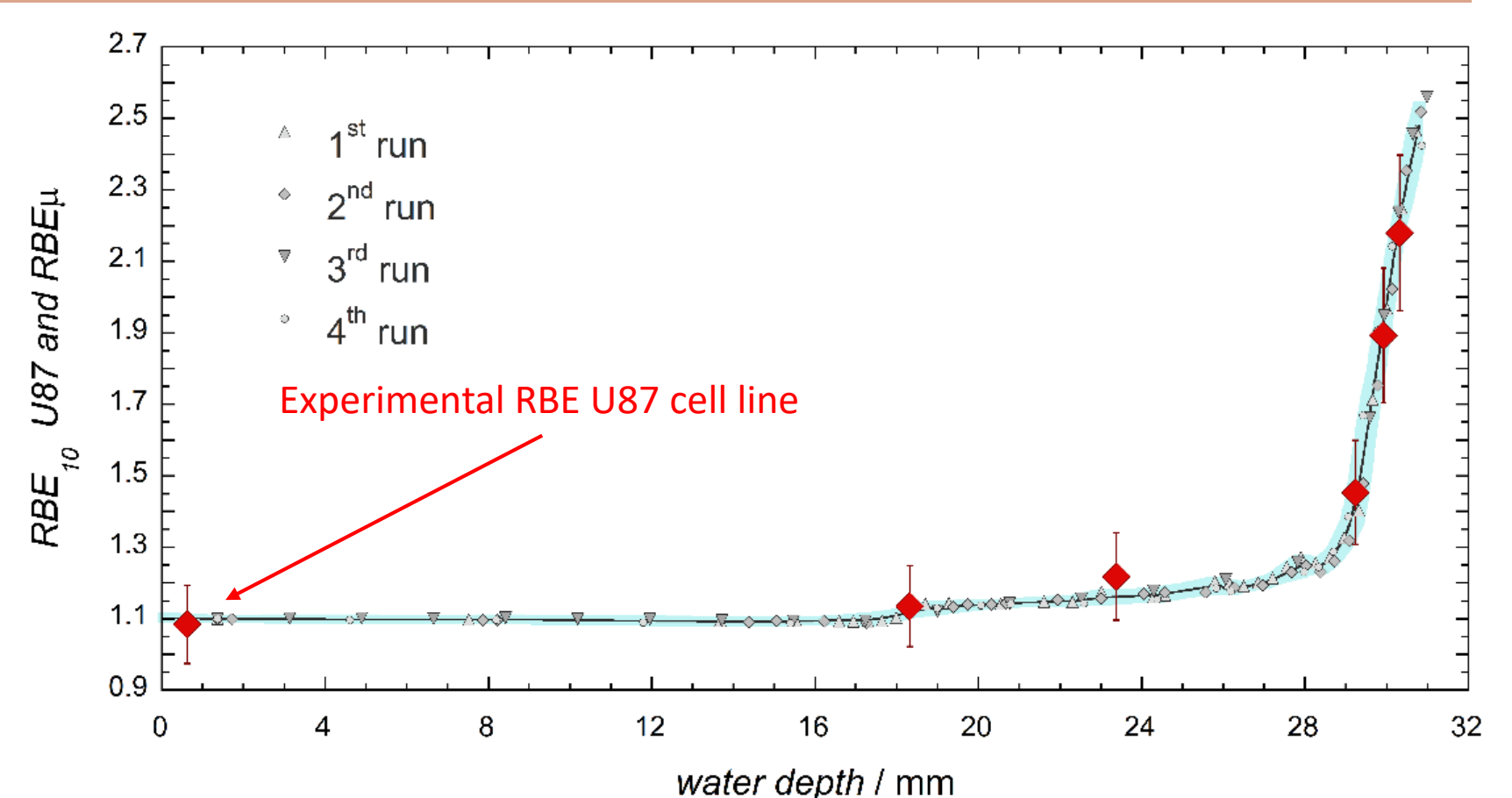
The shape of the spectra is consistent one year apart along the whole SOBP profile.

LET and RBE assessment

LET



RBE



Consistency with LET_d within 5% of uncertainty!

Consistency with RBE within the experimental uncertainty!