

Creating a new alpha/beta separation protocol

The principle is to select some unused isotope and change its "Label" (which determines the operation of electronics) to "alpha". It is then renamed. The operations should be done in service mode: In the Ready state, press the code 2557; there is a sound and a star (*) emerges beside the "Start" text. The instructions below are with the latest version (v. 1.7).

- 1) Select an unused isotope, e.g. Cs-137 behind the "Extra" key.
- 2) Press "Set" and then repeatedly "Enter" until "Label <0> gamma" appears.
- 3) Press "Next" to step to "Label <4> alpha" and press "Enter". Triathler now gives Rn222 as the preset isotope name. Don't confuse this with the original Rn222.
- 4) To rename, press "Set" and then repeatedly "Enter" until "New name" appears.
- 5) To write a new name, e.g. Unat (natural uranium), select "new" and then:
 - Press "char" until you get "U".
 - Press "pos" to move to the second character position.
 - Press "char" until you get "n" and so on. (Also numbers can be typed with their keys).
- 6) Finally, press "Enter" three times to accept the new name

Having created the new <Unat> protocol, select the original <Rn222> protocol, press "Set" and read its "y-gain" and "y-pos" values (and Lin/Log MCA scale selection). Then, select <Unat>, press "Set" and type the same values in the <Unat> protocol.

Of course, you can adjust all <Unat> parameters (counting time, windows, PLI) normally and independently from <Rn222>.

Setting an individual HV for each alpha/beta separation protocol

For optimisation purposes it is possible to set an individual HV in each alpha/beta protocol. This can be set with the "Bias V" in the protocol as follows:

- 1) Select the protocol.
- 2) Press "Set" and then repeatedly enter until "Bias V" appears.
- 3) Type a value and press "Enter".

Now one can use a higher HV in <Unat> than in <Rn222> protocol. Often, alpha/beta separation of quenched samples will improve with higher HV.

If this "Bias V" is set 0 (preset), the protocol uses the general alpha/beta voltage, found under the * sign ("Stop" key) of Ready state.