

Termoluminescencyjne dozymetry środowiskowe: projekt nowego typu obudowy oraz badania nad dostępnymi obudowami



Centralne Laboratorium
Ochrony Radiologicznej

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Obudowy TLD

Przykładowe dostępne obudowy



Rados TLD badge



DORIS



Gammasphere

Obudowy sprawdzane w ramach projektu Preparedness

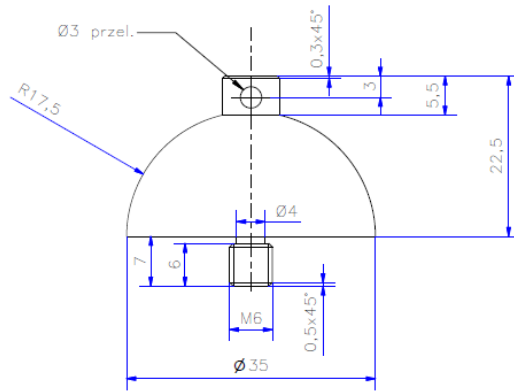
—PREPAREDNESS—

Metrology for mobile detection of ionising radiation
following a nuclear or radiological incident.

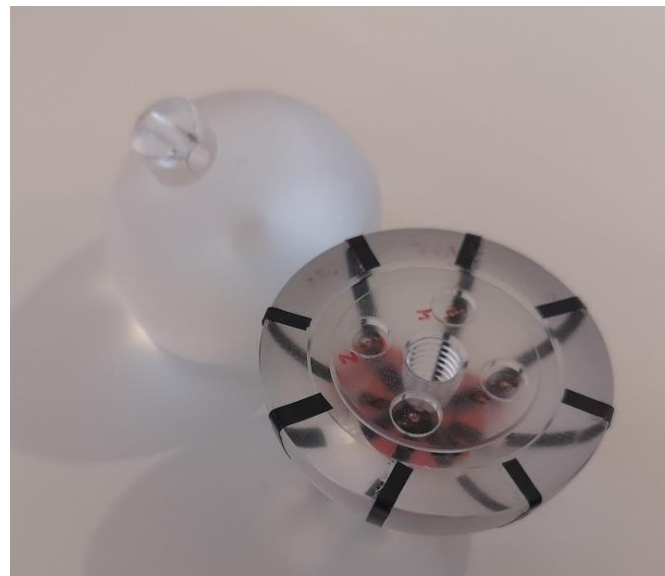


Od lewej: PMMA, PMMA+F, Doris, Gammasphere, CLOR's prototype

5



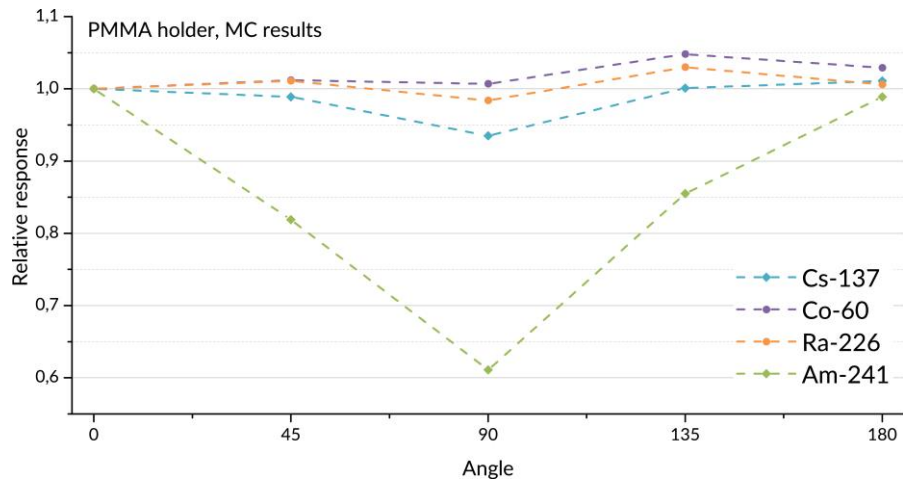
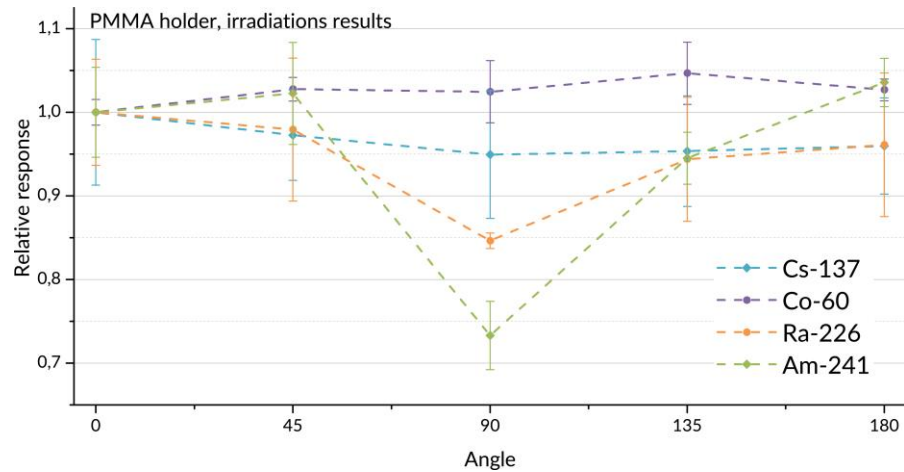
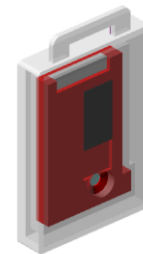
Wykonanie – tokarka cyfrowa



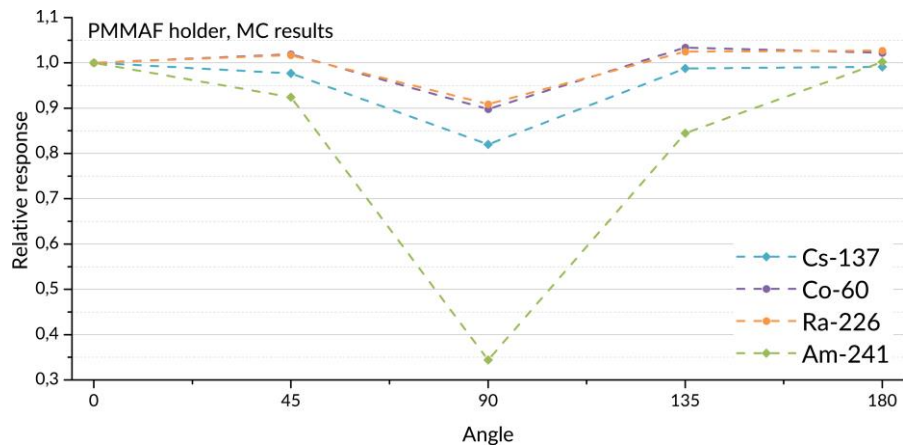
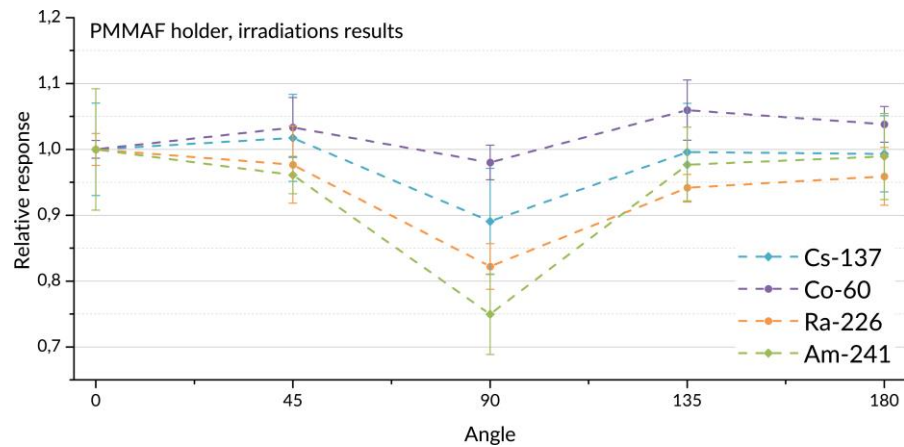
Charakterystyki kątowe

Napromieniania + symulacje MC

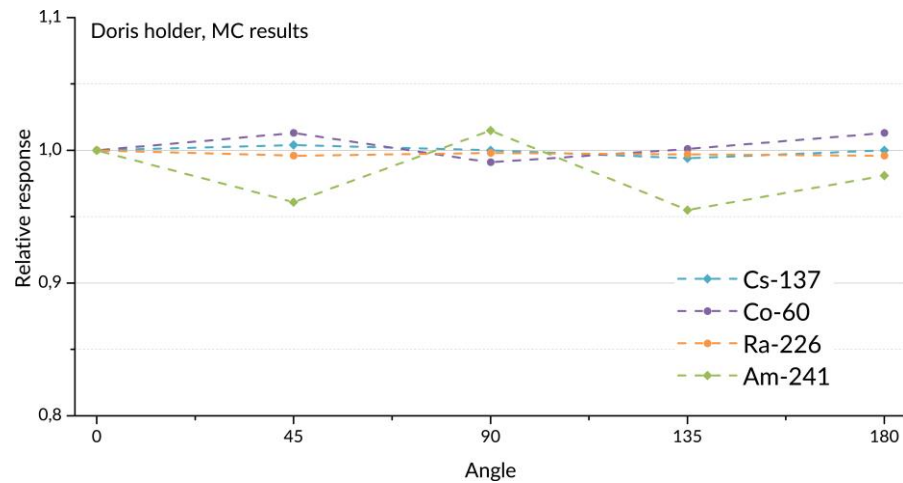
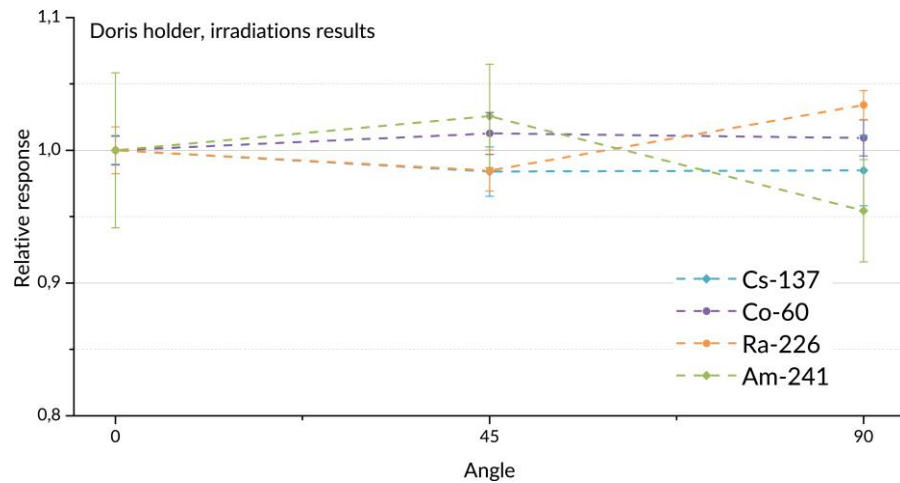
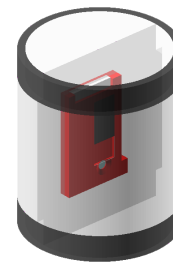
Wyniki PMMA



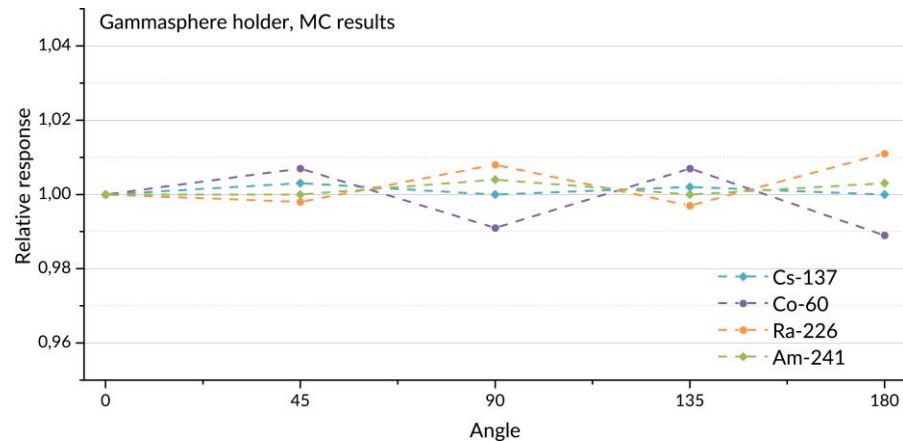
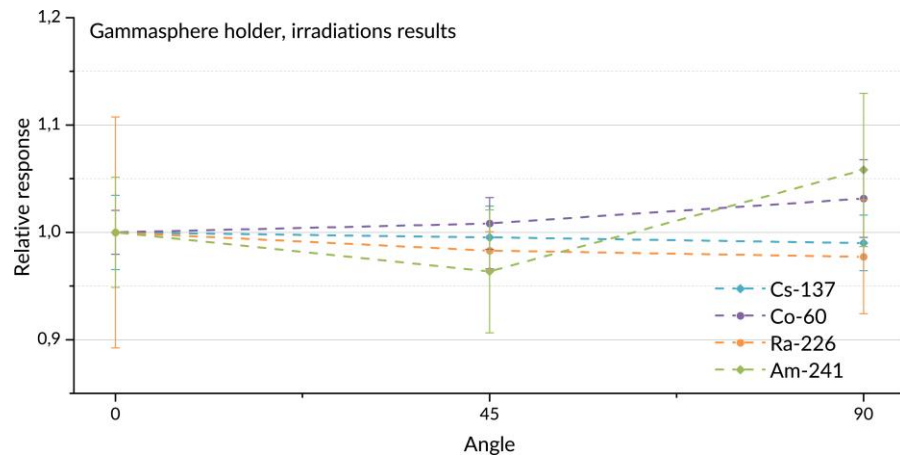
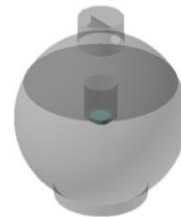
Wyniki PMMA+F



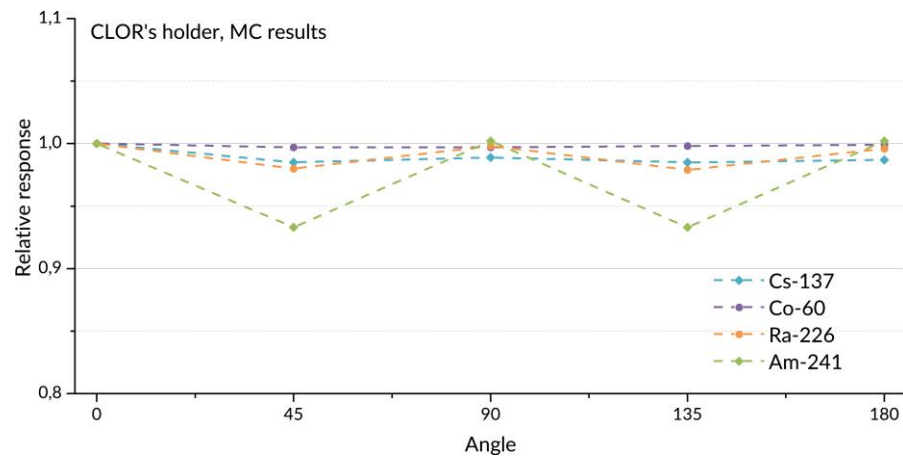
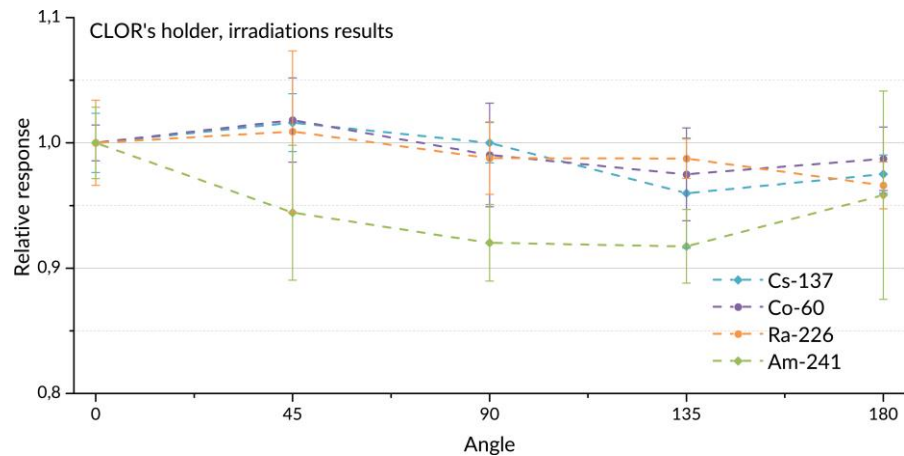
Wyniki Doris



Wyniki Gammasphere



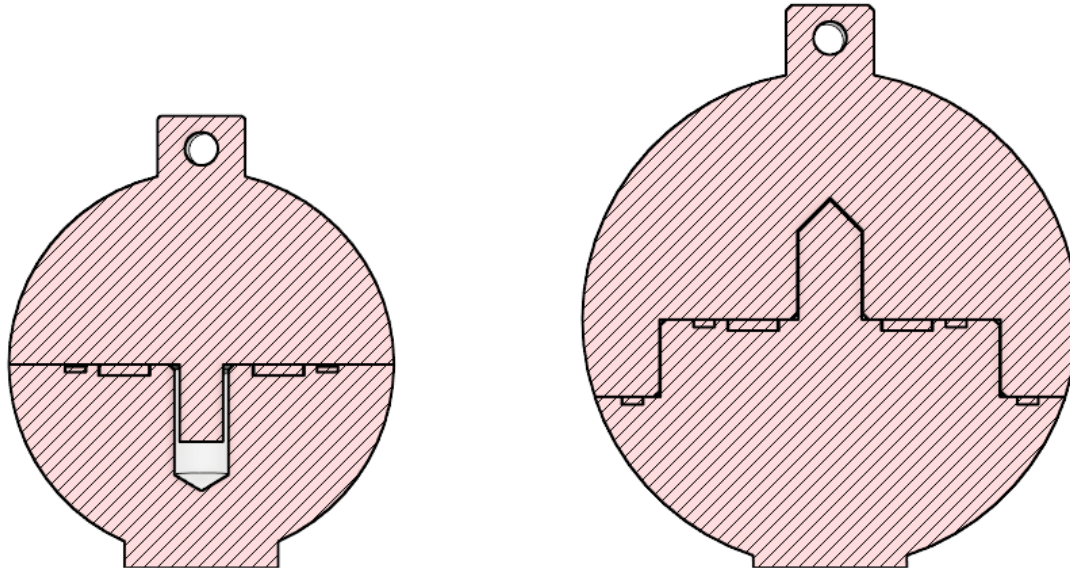
Wyniki CLOR's prototyp 1



Nowy projekt

CLOR prototyp 2

Projekt obudowy – prototyp nr 2 vs prototyp 1

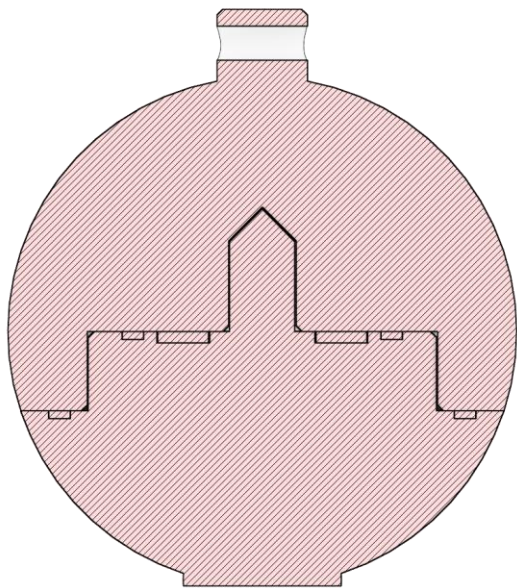


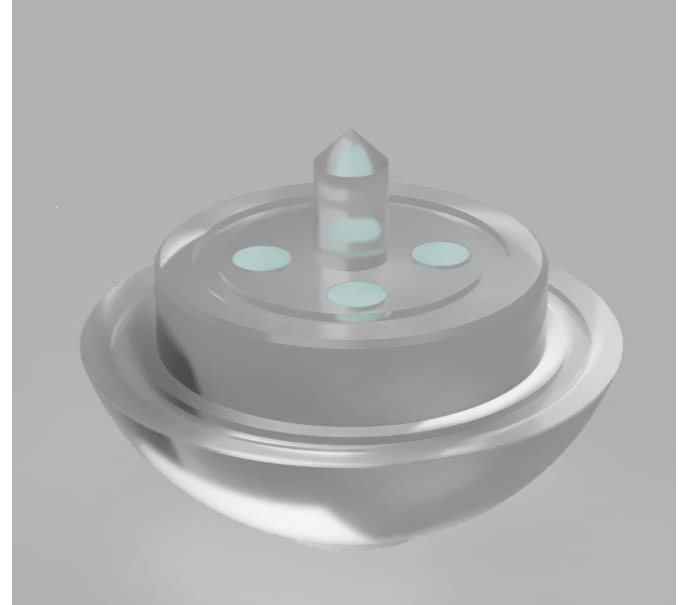
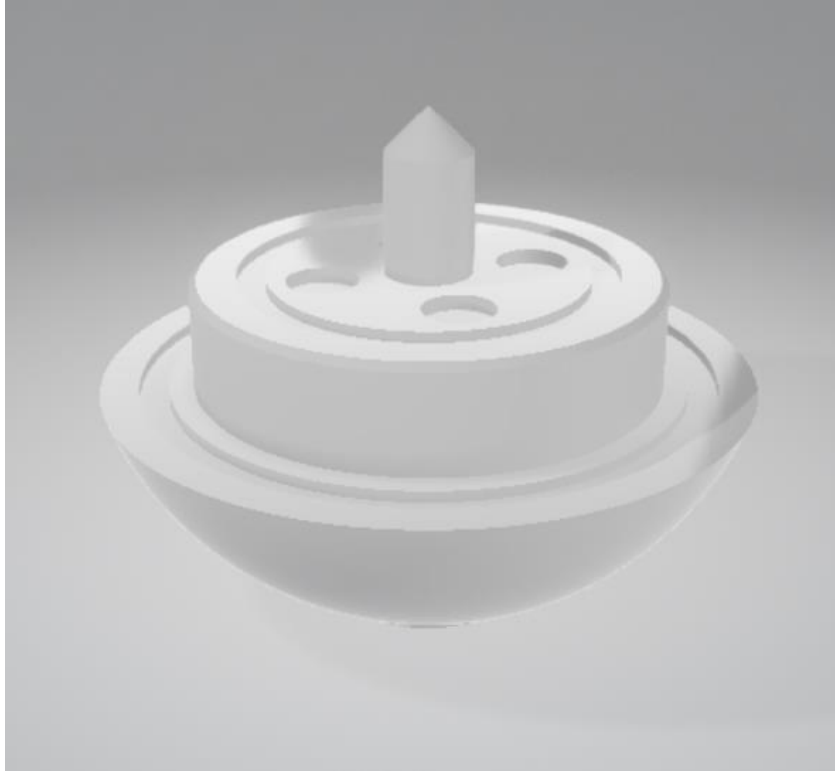
Od lewej: prototyp 1, prototyp 2



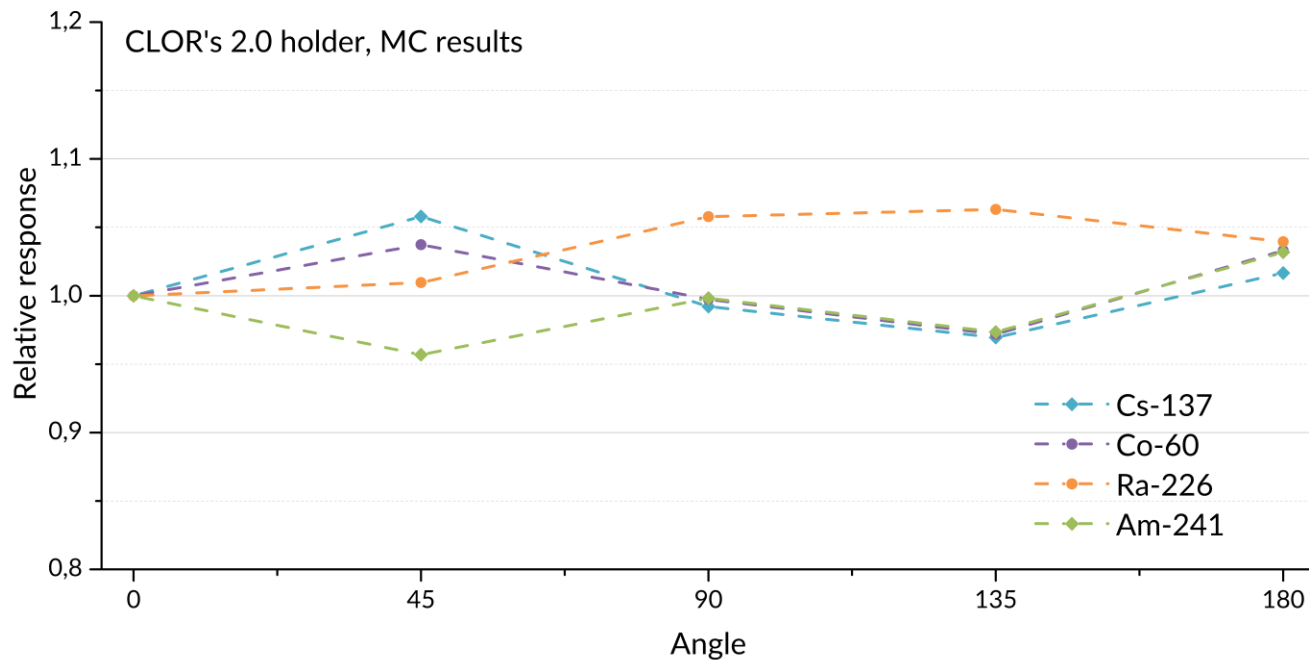
Od lewej: prototyp 1, prototyp 2

Projekt obudowy – prototyp nr 2





Wyniki symulacji CLOR's prototyp 2



Wyniki

- Dla płaskich obudów odpowiedź przy 90° wykazuje niedoszacowanie dawki o 18 % dla źródeł Cs-137, Co-60, i Ra-226 oraz o 30% dla źródła Am-241. Dla sferycznych i cylindrycznych obudów różnice odpowiedzi między kątami napromieniania były w granicach 5%

The background of the slide is a light gray field filled with numerous small, 3D molecular models. These models are rendered in various colors (white, blue, green, red, yellow) and represent different chemical structures, including spheres and sticks. Some models are connected by dashed lines, suggesting a network or a specific chemical pathway. In the bottom left corner, there is a small 3D coordinate system with axes labeled x, y, and z.

Dziękuję za uwagę

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