Novel High Sensitivity Analysis for Determination of Ultra-Trace Elements in Liquid Samples

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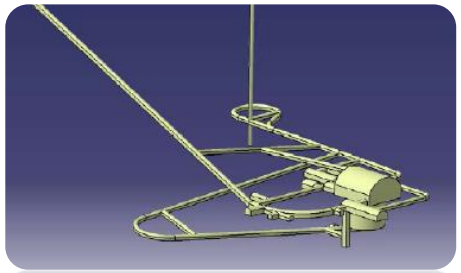


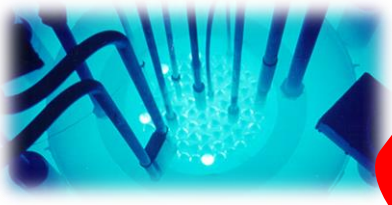
In **rare event experiments sensitivity** is conditioned by the **radioactive background** present in the materials of the experimental apparatus

An **essential condition** to reduce background is to develop high-sensitivity analysis techniques in order **to select the most suitable materials**

Radiopurity acceptable levels for ^{238}U and ^{232}Th: **$1 \cdot 10^{-13}$ - $1 \cdot 10^{-15}$ g/g**

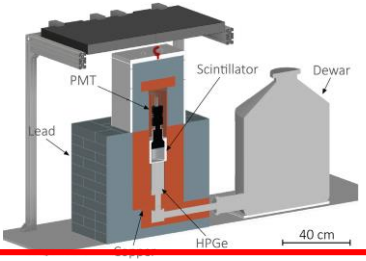
High sensitivity analysis for the determination of ^{238}U and ^{232}Th in organic liquids

Radiochemical Treatments



Neutron Activation Analysis

β-γ measurements



Sensitivity achieved:
$2 \cdot 10^{-15}$ g/g for ^{238}U - **$1{,}5 \cdot 10^{-14}$ g/g** for ^{232}Th

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