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Surface and bulk Pb210/Po210 contamination study on copper and PTFE using low background alpha counter

We have studied on surface and bulk Pb210/Po210 contamination
on copper and PTFE using low background alpha counter. Copper and PTFE
are the material used in various low background underground experiments
such as dark matter search and neutrino double beta decay search.
It is important to know the Pb210/Po210 contamination in copper and PTFE.
At the last LRT workshop, we reported that we had established the method
of the identification of Pb210/Po210 bulk contamination in copper
using low background alpha counter. Using that method, we studied the
following two issues. One is the background reduction on copper surface
by electro-polish. We found that reduction factor of surface Pb210/Po210 contamination is <10^-2, but some
Pb210/Po210 spread over deeper copper
region. It is important not to accumulate surface Pb210/Po210 because
it is difficult to remove the Pb210/Po210 perfectly by electro-polish.
The other study is on the surface/bulk Pb210/Po210 study on PTFE.
PTFE is the non-conductive material and easily accumulate Pb210/Po210
on the surface. Therefore it was difficult to identify on XIA UltraLo1800,
that is the best low background alpha counter. But we have established the
method to identify the Pb210/Po210 surface and bulk contamination. We report
the method and the measurement.

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