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# <sup>214</sup>Pb branching ratios measurement with XENONnT detector

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<sup>214</sup>Pb represents one of the most common irreducible contaminant in rare-events physics experiments. In the XENONnT experiment, a LXe dual-phase TPC for direct dark matter searches, <sup>214</sup>Pb represents the dominant contribution in the electron recoil background below 40 keV.

This isotope undergoes beta decay into several  $^{214}$ Bi excited states, generating electron/gamma events in the detector.

For several precision physics searches in XENONnT, such as solar-pp neutrino flux measurement, the accuracy demanded on this isotope branching ratios are still not currently available in the literature.

In this study, by exploiting  $^{222}$ Rn calibration campaign, we report updated measurements of  $^{214}$ Pb branching ratios.

# Poster prize

Yes

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