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## NEXT-DEMO prototype results

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The NEXT-100 time projection chamber, currently under construction, will search for neutrinoless double beta decay ( $\beta\beta_{0\nu}$ ) using 100–150 kg of high-pressure xenon gas enriched in the  $^{136}\text{Xe}$  isotope to  $\sim 90\%$ . The detector possesses two important features for  $\beta\beta_{0\nu}$  searches: very good energy resolution (better than 1% FWHM at the Q value of  $^{136}\text{Xe}$ ) and event topological information for the distinction between signal and background. Furthermore, the technique can be extrapolated to the ton-scale, thus allowing the full exploration of the inverted hierarchy of neutrino masses.

NEXT-DEMO prototype has been operating for 2 years and it has evolved according the collaboration necessities. Nowadays it is operating with the same configuration that will be used for NEXT-100: charge amplification with electroluminescence, energy measurement with PMTs and topology reconstruction with SiPMs. First results shows that energy resolution of 0.8% FWHM at  $Q\beta\beta$  is achieved. The very preliminary topology reconstructions of  $\text{Cs}^{137}$  events shows clearly identification of regions with very different energy deposition along the track allowing the identification of the end-point of the event.

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