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Building low background kton-scale liquid argon time projection chambers for physics discovery

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With radiopurity controls and small design modifications a kton-scale liquid argon time projection chamber similar to DUNE could be used for enhanced low energy physics searches. This includes improved sensitivity to supernova and solar neutrinos, and even weakly interacting massive particle dark matter. This talk will focus on tools being developed to support a large-scale radiopurity assay campaign necessary to construct such a detector. These are adapted from software originally developed for low background dark matter detectors, including “radiopurity.org” and “Background Explorer”.

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