## MEDEX'25



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## Search for neutrinoless double beta decay of Sn-124 at Yemilab

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The KIMS collaboration had reported that a lower limit on the Sn-124 half-life using an organotin-loaded liquid scintillation detector remained the best result. And recent results from other experiments calls that the next generation of neutrinoless double beta decay experiment requires a substantial quantity of target isotope in order to attain the enhanced sensitivity of 1E28 year. Consequently, the loading of organotin in the liquid scintillation detector has the potential application in the large-scale experiment to obtain the sensitivity. The preliminary R&D stage has been initiated for the neutrinoless double beta decay of Sn-124 with tetrabutyltin, which is well soluble in aromatic solvents and its commercial availability. Following the optimisation of the detection system, the test experiment will be conducted in the Yemilab, which is located at a depth of 1 km underground in Jeongseon, Korea.

This presentation will comprise a discussion of two key elements.

The results of the properties of the detector will be discussed, and the scheme of the experiment will be presented.

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