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Neutrinoless double beta decay search with SNO+ Detector

The SNO+ detector is a multi-purpose neutrino experiment in the final phase of construction. It is situated at SNOLAB and succeeding to the SNO experiment by replacing heavy water with liquid scintillator. Its main scientific goal is to search for neutrinoless double beta decay. SNO+ will use Te-loaded organic liquid scintillator to search for this process. The advantage of SNO+ is the possibility of loading large quantities of double beta decay isotope in an extremely low background environment. In the initial phase of the experiment, we are going to load the scintillator with 0.3% Te concentration. In this poster, the neutrinoless double beta decay physics reach of SNO+ and recent research and development of Te-loaded liquid scintillator will be presented.

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