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Camera Readout and Barium Tagging (CRAB) for Neutrinoless Double Beta Decay

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Finding evidence of neutrinoless double beta decay would reveal the Majorana nature of the neutrino and give insight into the origins of the matter-antimatter asymmetry in the universe, the smallness of neutrino mass, and the symmetry structure of the Standard Model. The NEXT collaboration is developing a sequence of high pressure xenon gas time projection chambers with the aim of creating a ton-scale and beyond-ton-scale, very low background neutrinoless double beta decay search. In this talk, I will highlight the strengths of this program and will present new technological developments in the NEXT collaboration that will enable high pressure Xenon TPC technologies to become essentially background free at the largest scales, opening the door to beyond-ton-scale experiments that could probe the normal ordering of neutrino masses.

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