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Progress toward a single 229Th3+ ion nuclear optical clock COREY CAMPBELL, ALEXANDER RADNAEV, ALEX KUZMICH, Georgia Institute of Technology — The extension of coherent state manipulation and precision laser spectroscopy and metrology from atomic to nuclear states would be a tremendous advance in fundamental physics research. The 7.6 eV isomeric transition in the 229Th nucleus is currently the sole candidate for such an extension. Experimental progress toward coherently exciting this transition in a laser-cooled triply charged 229Th ion is presented.

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