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Shengnan Huang* (huang.shengn@northeastern.edu), Department of Mathematics, 360 Huntington Avenue, Boston, MA 02115, and **Thang T. Q. Lê** and **Milen Yakimov**. *Root of unity quantum cluster algebras and Cayley-Hamilton algebras.*

The structures of maximal orders and Cayley-Hamilton algebras exist in many algebras within the framework of root of unity quantum cluster algebras. In this talk, I will show that the root of unity upper quantum cluster algebra is a maximal order, and the pair of it and its central subalgebra is a Cayley-Hamilton algebra. I will also discuss that all monomial subalgebras of root of unity quantum tori and any intersections of them over subsets of seeds are Cayley-Hamilton algebras. (Received September 15, 2021)