1102-17-230   **Hongjia Chen** and **Jie Sun*** (sjie@mtu.edu), Mathematical Sciences, Fisher Hall 319, 1400 Townsend Drive, Houghton, MI 49931. *Universal central extensions of $\mathfrak{sl}_{m|n}$ over $\mathbb{Z}/2\mathbb{Z}$-graded algebras.*

In this talk central extensions of the Lie superalgebra $\mathfrak{sl}_{m|n}(A)$ are constructed, where A is a $\mathbb{Z}/2\mathbb{Z}$-graded superalgebra over a commutative ring K. The Steinberg Lie superalgebra $\mathfrak{st}_{m|n}(A)$ plays a crucial role. We show that $\mathfrak{st}_{m|n}(A)$ is a central extension of $\mathfrak{sl}_{m|n}(A)$ for $m + n \geq 3$. We use a $\mathbb{Z}/2\mathbb{Z}$-graded version of cyclic homology to show that the center of the extension is isomorphic to $\mathrm{HC}_1(A)$ as K-modules. For $m + n \geq 5$, we prove that $\mathfrak{st}_{m|n}(A)$ is the universal central extension of $\mathfrak{sl}_{m|n}(A)$. For $m + n = 3, 4$, we prove that $\mathfrak{st}_{2|1}(A)$ and $\mathfrak{st}_{3|1}(A)$ are both centrally closed. The universal central extension of $\mathfrak{st}_{2|2}(A)$ is constructed explicitly. (Received July 29, 2014)

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