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Alison Gordon Lynch* (gordon@math.wisc.edu). *Finite-dimensional irreducible modules for an even subalgebra of $U_q(\mathfrak{sl}_2)$* . Preliminary report.

In this talk, we consider a subalgebra of the quantum algebra $U_q(\mathfrak{sl}_2)$. In 2006, Ito, Terwilliger, and Weng gave a presentation for $U_q(\mathfrak{sl}_2)$ in generators x, y, y^{-1}, z , called the *equitable presentation*, and showed that $\{x^r y^s z^t : r, t \in \mathbb{N}, s \in \mathbb{Z}\}$ is a basis for $U_q(\mathfrak{sl}_2)$. In 2013, Bockting-Conrad and Terwilliger introduced a subalgebra \mathcal{A} of $U_q(\mathfrak{sl}_2)$ spanned by the elements $\{x^r y^s z^t : r, s, t \in \mathbb{N}, r + s + t \text{ even}\}$. We give a presentation for the algebra \mathcal{A} and we show that, for every $d \geq 1$, there exists a unique irreducible \mathcal{A} -module of dimension d . (Received July 26, 2014)