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Andrew Schopieray* (schopier@uoregon.edu), Department of Mathematics, Fenton Hall,
University of Oregon, Eugene, OR 97403-1222. *A classification of \mathfrak{sl}_3 relations in the Witt group of
non-degenerate braided fusion categories.* Preliminary report.

The Witt group of non-degenerate braided fusion categories provides an algebraic structure that is one of many tools for organizing braided fusion categories, while relations in this group give a promising method for constructing new examples of fusion categories. Relations between the classes of pseudo-unitary braided fusion categories $[\mathcal{C}(\mathfrak{sl}_2, k)]$, $k \geq 1$ have been completely described in the work of Davydov, Nikshych, and Ostrik. Here we give a complete classification of relations between the classes $[\mathcal{C}(\mathfrak{sl}_3, k)]$, $k \geq 1$ with a view toward extending these methods to arbitrary simple finite dimensional Lie algebras \mathfrak{g} and positive integer levels k . (Received January 25, 2016)