1001-16-387 **Frederick M. Goodman*** (goodman@math.uiowa.edu), Department of Mathematics MLH, University of Iowa, Iowa City, IA 52242, and **Holly Hauschild** (hhauschi@math.uiowa.edu), Department of Mathematics MLH, University of Iowa, Iowa City, IA 52242. *The affine Birman-Wenzl-Murakami algebras and tangles in the solid torus.*

The ordinary Birman-Wenzl-Murakami algebras arise in two related contexts – as centralizer algebras for orthogonal and symplectic quantum groups, and as an algebraic framework for the Kauffman link invariant. In fact the BMW algebras are isomorphic to algebras of tangles in $D^2 \times I$, modulo Kauffman skein relations, as was shown by Morton and Wasserman in an unpublished paper from 1989.

We are studying the affine BMW algebras, which are related to the ordinary BMW algebras as the affine Hecke algebras of type A are related to the ordinary Hecke algebras of type A.

As a first step it is useful to establish an isomorphism with the algebras of tangles in $S^1 \times I \times I$. For example, the existence of a Markov trace and conditional expectations is best seen in the tangle context, and one can find a nice basis, analogous to a standard basis of affine Hecke algebras from the tangle picture. (Received August 31, 2004)