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Hongwei Wang* (hongwei.wang@tamui.edu), 302 Bob Bullock Loop, Apt 15301, Laredo, TX 78043. *The Action of Kauffman Bracket Skein Algebra of the Torus on the Skein Module of 3-Twist Knot Complement.*

Skein modules were introduced by Przytycki to extend the new knot polynomials of the 1980's to knots and links in arbitrary 3-manifolds. They turned out to be very useful for constructing quantum invariants since they were closely related to topological quantum field theory. Let R be a commutative ring with identity. The skein modules are quotients of free modules of ambient isotopy classes of framed knots and links in orientable 3-manifolds by local skein relations. My research is a continued work of Răzvan Gelca and Fumikazu Nagasoto's work. We consider the particular case of the manifold being $M = S^3 \setminus N(K)$ where $N(K)$ is a regular neighborhood of the 3-twist knot K . We want to understand the action of $K_t(\mathbb{T}^2 \times [0, 1])$ on $K_t(S^3 \setminus N(K))$. We modify the basis of Bullock and Lofaro to use Chebyshev polynomials of second kind $S_n(x)$. (Received September 07, 2017)