1012-57-218   **Uwe Kaiser*** (`kaiser@math.boisestate.edu`), Department of Mathematics, Boise State
University, 1910 University Drive, Boise, ID 83725-1555, and **Nikolaos Apostolakis**.
Understanding the bracket skein quantization. Preliminary report.

The $\star$-product of the Kauffman bracket quantization defines an infinite sequence of bilinear pairings on the algebra of complex $SL(2,\mathbb{C})$-characters of the fundamental group of an oriented surface. We prove a formula, which expands the terms of this sequence in a two-variable polynomial algebra of resolution operations of diagrams on F. The degree k elements in this algebra can be interpreted as string topology operations defined by sums of weighted resolutions of the k-element subsets of the set of crossings of a diagram. The highest degree term of resolution operation in the quantum order k pairing is a natural *alternating k-resolution* operation. The lower order terms can be explicitly identified by obvious counting degeneracies and contractible loop correction terms. (Received September 20, 2005)

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