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Commutativity in the Kauffman bracket skein algebra of a surface.

Let F be an oriented, closed connected surface, possibly with some punctures. The Kauffman bracket skein algebra of F is formed by taking linear combinations of framed links embedded in a cylinder over F with coefficients in complex numbers, and dividing by the Kauffman bracket skein relations. We assume that the parameter involved in the relation is a root of unity. The multiplication comes from placing one link above another and extending linearly. We characterize the center of this algebra for any root of unity and any number of punctures (including none). We also show that for certain roots of unity a properly localized algebra of a surface with at least one puncture can be split over its center as a tensor product of two commutative subalgebras. (Received July 18, 2017)