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*The  $D_{2n}$  planar algebra and knots*

We consider a planar algebra defined by generators and relations, and show that this is a presentation of the planar algebra of the subfactor with principal graph  $D_{2n}$ . Then we use this planar algebra to build a knot invariant. The construction of this invariant lets us see some interesting coincidences among specializations of the colored Jones, HOMFLYPT, and Kauffman polynomials of knots.

This is joint work with Scott Morrison and Noah Snyder.