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Richardson, TX 75080. *Kauffman States of Generalized Crossing*. Preliminary report.

An $m \times n$ generalized crossing $D_{m,n}$ is an $(m+n)$ tangle, in which m strands are placed above n strands. We consider a problem of finding an explicit formula for Kauffman bracket states sum of $D_{m,n}$. In particular, we determine the number of $m+n$ Catalan states that do not appear as the Kauffman states of the generalized crossing, and we find necessary and sufficient condition for the Catalan tangle to be obtained as a Kauffman state of $D_{m,n}$. We relate our results to the problem of finding a closed formula for the product in the Kauffman Bracket Skein Algebra of I-bundle over 3 punctured disk defined by D. Bullock and J. Przytycki. (Received September 13, 2013)