1128-57-283   **M K Dabkowski*** (`mdab@utdallas.edu`) and **J H Przytycki** (`przytyck@gwu.edu`). *Catalan States of Lattice Crossing: Application of Plucking Polynomial.*

Let $L(m,n)$ be an $m \times n$-tangle obtained by placing n parallel vertical lines above m parallel horizontal lines. For a Catalan connection C obtained as a Kauffman state of $L(m,n)$ we consider the problem of finding its coefficient $C(A)$ in the Relative Kauffman Bracket Skein Module of $D^2 \times I$ with $2(m+n)$-points fixed on the boundary. We show that, if C has returns only on the ceiling, then $C(A)$ has a closed form formulae in terms of Gaussian polynomials. For C with no returns on the tangle's floor, the coefficient $C(A)$ can be determined by computing the plucking polynomial Q with a delay function of the associated rooted tree $T(C)$. (Received February 28, 2017)