

1125-AF-1405 **Joel Hass*** (hass@math.ucdavis.edu). *Generating random knots and links from random permutations.*

We study random knots and links using the Petaluma model, which is based on the petal projections developed by Adams. In this model we obtain a formula for the distribution of the linking number of a random two-component link. We also obtain formulas for the expectations and the higher moments of the Casson invariant and the order-3 knot invariant v_3 . These are the first precise formulas given for the distributions and higher moments of invariants in any model for random knots or links. We also use numerical computation to compare these to other random knot and link models, such as those based on grid diagrams. This is joint work with C. Even-Zohar, N. Linial and T. Nowik. (Received September 16, 2016)