1145-14-2287   **Vance Blankers*** (`blankers@math.colostate.edu`), 2700 Stanford Rd #33, Fort Collins, CO 80525. *The Witten Conjecture for κ-classes on the Moduli Space of Curves.*

κ-classes were introduced by Mumford, as a tool to explore the intersection theory of the moduli space of curves $\mathcal{M}_g$. Iterated use of the projection formula shows there is a close connection between the intersection theory of κ-classes on the moduli space of unpointed curves, and the intersection theory of ψ-classes on all moduli spaces. We show that the generating function for κ-class intersections is related to the Gromov-Witten potential of a point via a change of variables given by complete symmetric polynomials, rediscovering a theorem of Manin and Zokgraf from '99. Surprisingly, the starting point of our story is a combinatorial formula that relates intersections of κ-classes and ψ-classes via a graph theoretic algorithm (the relevant graphs being dual graphs to stable curves). Further, this story is part of a large wall-crossing picture for the intersection theory of Hassett spaces, a family of birational models of $\mathcal{M}_g$. (Received September 25, 2018)