1081-14-283 **Daniel Schultheis*** (dschulth@math.ucsd.edu). *Virtual invariants on Quot schemes over toric surfaces.* Preliminary report.

Let C be a smooth projective curve and consider $\mathrm{Quot}_C(\mathbb{G}(r,N),d)$, the Quot scheme of degree d, rank $N-r$ quotients of $\mathcal{O}_C^N$. Numerous mathematicians have studied the intersection theory of $\mathrm{Quot}_C(\mathbb{G}(r,N),d)$, culminating in a proof that the virtual count of maps from C to the Grassmannian $\mathbb{G}(r,N)$ satisfies the well known Vafa-Intriligator formula. We will explore the history of this problem and focus on recent generalizations when C is replaced by a toric surface. (Received February 13, 2012)