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Harold Williams* (harold@math.berkeley.edu). *Cluster Ensembles and the Chamber Ansatz.*

After the introduction of cluster algebras a decade ago, it was quickly discovered that the combinatorial data underlying a cluster algebra encodes a second type of algebraic structure, variously called X-coordinates or coefficients. These are related to the cluster algebra by an abstract monomial transformation, the cluster ensemble map, concrete examples of which had been discovered in Teichmuller theory and discrete integrable systems independently of the perspective of cluster algebras. In this talk we explain how this structure gives a new point of view on the Chamber Ansatz, a key formula in total positivity discovered in the late 90's. Using certain X-coordinates constructed on double Bruhat cells in higher Teichmuller theory, we will see that the Chamber Ansatz is in retrospect a disguised example of the cluster ensemble map. (Received August 28, 2012)