

Meeting: 1002, Pittsburgh, Pennsylvania, SS 9A, Special Session on Multivariate Hypergeometric Functions: Combinatorial and Algebro-Geometric Aspects

1002-14-227 **Charles Doran*** (doran@math.washington.edu) and **John Morgan.** *Integral sub-variations of Hodge structure and moduli of Calabi-Yau complete intersections.* Preliminary report.

The integral variation of Hodge structure underlying a Batyrev-Borisov family of complete intersection Calabi-Yau threefolds in a Gorenstein toric Fano variety is described by the GKZ-hypergeometric system together with an integral basis of solutions. We show how to construct integral sub-variations on the thrice punctured sphere by restriction to sub-families, and demonstrate in particular that the unique variation associated to the primitive 12th roots of unity “comes from geometry” in this way. (Received September 14, 2004)