

1167-13-150

Roberto Barrera and **Christine Berkesch*** (cberkesch@umn.edu), Minneapolis, MN 55455, and
Laura Felicia Matusevich. *Local duality and hypergeometric functions in codimension 2*.

The local cohomology modules of semigroup rings are intimately connected to the theory of GKZ-hypergeometric functions. These functions are solutions of the D-module parallel of an affine toric variety, which depend on parameter that is a character of the torus.

By explicitly understanding the multigraded local duality map for semigroup rings of codimension 2, we also explain how the solution spaces of GKZ-hypergeometric systems vary with parameters. The intuition of this special case is also in line with our prior general results on the parametric variation of these solution spaces. (Received March 04, 2021)