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**Hailong Dao\*** (hdao@ku.edu), 405 Snow Hall 1460 Jayhawk Blvd, Lawrence, KS 66049. *On  $h$ -vector of standard graded algebras.*

Abstract: Let  $R$  be a standard graded algebra over a field. The  $h$ -vector of  $R$  is the coefficients vector of the numerator of the (reduced) Hilbert series of  $R$ . It is a classical and easy result that if  $R$  is Cohen-Macaulay, then the  $h$ -vector is non-negative. This talk will focus on how the singularities of  $R$  affect the size and shapes of the  $h$ -vectors. Based on joint work with Linqun Ma and Matteo Varbaro. (Received January 21, 2018)