EXT AND TOR ON TWO-DIMENSIONAL CYCLIC QUOTIENT SINGULARITIES

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ABSTRACT. Two-dimensional cyclic quotient singularities are the first interesting class of affine singular toric varieties. The torus action allows one to rephrase many problems of algebraic geometry in combinatorial terms. This is also true for the study of the groups $\mathrm{Ext}_X^i(\mathcal{O}(D), \mathcal{O}(D'))$ and $\mathrm{Tor}_i^X(\mathcal{O}(D), \mathcal{O}(D'))$ for two torus invariant Weil divisors on such a variety X. In my talk I will demonstrate that Ext_X^{i+2} and Tor_i^X are Matlis dual to each other