

The ring of differential operators in a generalized Stanley-Reisner ring

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Abstract

The ring of differential operators of a Stanley-Reisner ring was characterized by Traves and the ring of differential operators of a numerical semigroup ring was characterized by Saito and Traves. We will first describe a nice way to view the ring of differential operators of a Stanley-Reisner ring in terms of the multi-graded setting presented by Saito and Traves for a numerical semigroup ring. Then we will present a generalization of this for some radical quotients of numerical semigroup rings. This is joint work of Berkesch, Chan, Klein, Matusevich, Page and Vassilev.

Keywords: ring of differential operators, Stanley-Reisner ring, numerical semigroup.