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Toward Free Resolutions Over Scrolls.

Free resolutions over the polynomial ring have a storied and active record of study. However, resolutions over other rings are much more mysterious; even simple examples can be infinite! In these cases, we look to any combinatorics of the ring to glean information. This talk will present a minimal free resolution of the ground field over the semigroup ring arising from rational normal 2-scrolls, and a computation of the Betti numbers of the ground field for all rational normal k -scrolls. (Received February 16, 2021)