

1159-13-120

Ayah Almousa* (aka66@cornell.edu), NY, and **Gunnar Floystad** and **Henning Lohne**.

Polarizations of powers of graded maximal ideals.

We give a complete combinatorial characterization of all possible polarizations of powers of the graded maximal ideal $(x_1, x_2, \dots, x_m)^n$ of a polynomial ring in m variables. We also give a combinatorial description of the Alexander duals of such polarizations. In the three variable case $m = 3$ and also in the power two case $n = 2$ the descriptions are easily visualized and we show that every polarization defines a (shellable) simplicial ball. We conjecture that any polarization of an Artinian monomial ideal defines a simplicial ball. (Received August 03, 2020)