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Cellular Resolution of the n -gon

Cellular Resolutions have been studied in a number of special classes. We will present a cellular resolution of the Stanley-Reisner ring of the n -gon. This is an interesting case as this ring is Gorenstein and has a non-linear resolution. Our construction shows that a resolution is supported on a self-dual polytope with integer coordinates. We can also show that this set of polytopes support a resolution of the Stanley-Reisner ring of a family of stacked polytopes.