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*A NOTE ON  $f$ - IDEALS*

$f$ -vector is an important invariant of a simplicial complex  $\Delta$ . It is also very useful in computing the Hilbert series of the Stanley-Reisner ring  $K[\Delta]$ .  $f$ -Ideals are precisely those square-free monomial ideals in the polynomial ring  $S = K[x_1, x_2, \dots, x_n]$  for which the corresponding facet complex and the non-face complex have the same  $f$ -vector. Thus, for an  $f$ -ideal  $I$ , the Hilbert series of  $S/I$  can be computed more easily, by using the  $f$ -vector of facet complex of  $I$ . The notion of  $f$ -ideals is recent, and have so far been studied in the papers given in references only. In my talk, I will present, systematically, what have been done in this particular direction, and propose some new problems to see what can be done more.

## References

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