ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to a Talk

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"In search of normally torsion-free and minimally not normally torsion-free square-free monomial ideals"

N.2.35 | Wednesday, 24 July 2024 | 10:00 a.m.

Abstract

In this talk, we first review the necessary definitions of commutative algebra such as minimal primary decomposition and normally torsion-freeness. After that, let $I \subset R = K[x_1, \ldots, x_n]$ be a square-free monomial ideal, $\mathfrak{q}$ be a prime monomial ideal in R, h be a square-free monomial in R with $\operatorname{supp}(h) \cap (\operatorname{supp}(\mathfrak{q}) \cup \operatorname{supp}(I)) = \emptyset$,and $L := I \cap (\mathfrak{q}, h)$. We concentrate on the associated primes of powers of L and explore the normally torsion-freeness of L. Next, we give an application on a combinatorial result. Finally, we study when a square-free monomial ideal is minimally not normally torsion-free, in particular, we introduce a class of square-free monomial ideals, which are minimally not normally torsion-free.

This talk is based on a joint work with Veronica Crispin Quiñonez and Winfried Hochstättler, cf. [1].

References

[1] M. Nasernejad, V. Crispin Quiñonez, and W. Hochstättler, *On the normally torsion-freeness of square-free monomial ideals*, Journal of Algebra and Its Applications

Roswitha Rissner and the Department of Mathematics look forward to seeing you at the talk!