ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Presentation about the Workplacement

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"Associated primes of powers of monomial ideals"

S.0.05 | Monday, 23 September 2024 | 10:00 a.m.

Abstract

In mathematics, a key concept for gaining a deeper understanding of the very nature of an object is to decompose it into simpler, more managable parts. For example, every natural number can uniquely be decomposed into a product of prime numbers. By a theorem of Noether and Lasker, every ideal in a Noetherian ring can be decomposed into primary ideals. This decomposition allows us to associate a unique set of prime ideals with every ideal, known as the associated primes. Interestingly, the set of associated primes does not remain constant in general when considering powers of an ideal and can exhibit quite erratic behavior. However, by a result of Brodmann, it is known that the sequence of associated primes of powers of an ideal stabilizes. Even in the case of a monomial ideal not much is known when this stabilization occurs. In this talk, we will provide a brief introduction to the general theory of associated primes, discuss some results on monomial ideals, and share insights into the experience of working at

the Institute of Mathematics at Alpen-Adria-Universität.

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