

ALGEBRAIC GEOMETRY AND COMMUTATIVE ALGEBRA SEMINAR

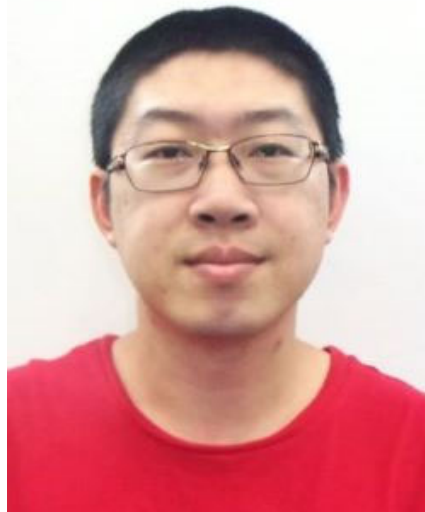
Speaker: Cheng Meng
Purdue University

Date: Tuesday, October 25, 2022

Time: 2:30 PM

Location: 258 Hurley Hall

Zoom URL: NA



Lecture Title:

Multiplicities in flat local extensions

Abstract

We introduce the notion of strongly Lech-independent ideals as a generalization of Lech-independent ideals defined by Lech and Hanes, and use this notion to derive inequalities on multiplicities of ideals. In particular we prove that if (R, \mathfrak{m}) and (S, \mathfrak{n}) are Noetherian local rings of the same dimension, S is a flat local extension of R , and up to completion S is standard graded over a field and $I = \mathfrak{m}S$ is homogeneous, then $e(R)$ is no greater than $e(S)$.