



ALGEBRA SEMINAR

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4:00 pm - 5:00 pm

313 Armstrong Hall

Relations among n -syzygy modules, n -torsionfree modules, and modules satisfying (S_n)

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In this talk, we will consider three classes of modules over a commutative Noetherian ring; n -syzygy modules, n -torsionfree modules, and modules satisfying Serre's condition (S_n) . There are some relations among these classes of modules. For example, n -torsionfree modules are n -syzygy modules, and if R satisfies (S_n) , then n -syzygy modules satisfy (S_n) . Therefore a natural question arises: when are two of these classes equal?

This question has already been considered by several authors, such as Auslander-Bridger, Evans-Griffith, Araya-Iima, and Goto-Takahashi. The aim of this talk is to connect these results by using certain local Gorenstein conditions. This talk is based on a joint work with Ryo Takahashi and Yoshinao Tsuchiya.