

ALGEBRA AND NUMBER THEORY
SEMINAR

Lifting the j -invariant

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Abstract: The coordinates of the j -invariant of the canonical lifting of an ordinary elliptic curve are functions on the j invariant of the latter curve. Mazur asked about the nature of these functions and Tate asked about the possibility to extend them to supersingular values. After describing methods to deal with Witt vectors in an efficient way, we will show that only the first three coordinates can be extended to supersingular values and give precise descriptions for the first four coordinates.

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Mathematics and Science Center: W306

MATHEMATICS AND COMPUTER SCIENCE
EMORY UNIVERSITY