

BOSTON UNIVERSITY NUMBER THEORY SEMINAR

Level raising mod 2 and arbitrary 2-Selmer ranks

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Monday, Oct 27 at 4:15 pm

111 Cummington Street, MCS B21

Tea and cookies in MCS 144 at 4:00 pm

Abstract: We prove a level raising mod 2 theorem for elliptic curves over \mathbb{Q} that allows one to raise the level at several primes simultaneously with prescribed signs. We use it to study the 2-Selmer groups of modular abelian varieties with common mod 2 Galois representation. As an application, we show that the 2-Selmer rank can be arbitrary in level raising families. This is joint work with Bao V. Le Hung.