

Boğaziçi MATH GRAD SEMINAR

Torsion of Rational Elliptic Curves over the $\mathbb{Z}_p$ -Extensions of Quadratic Fields

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Abstract: Let E be an elliptic curve defined over $\mathbb{Q}$. For a quadratic number field K and an odd prime number p , let L be a $\mathbb{Z}_p$ -extension of K . We prove that $E(L)_{\text{tors}} = E(K)_{\text{tors}}$ when $p > 5$. It enables us to classify the groups that can be realized as the torsion subgroup $E(L)_{\text{tors}}$, by using the classification of torsion subgroups over the quadratic fields.

Date : Wednesday, October 14th, 2026

Time: 17:00 *Note the unusual time*

Place: Online via Zoom, also screened in TB260A. [Click for Zoom link.](#)