ON THE REFINED `BIRCH--SWINNERTON-DYER TYPE' CONJECTURES OF MAZUR AND TATE

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A key role in Dasgupta--Kakde's p-adic solution to Hilbert's 12th problem is played by the `integral Gross--Stark conjecture', also known as `Gross's tower of fields conjecture'.
This conjecture is analogous to the refined `Birch--Swinnerton-Dyer type' conjectures of Mazur and Tate, as they share a similar format and were both discovered during a seminar at Harvard in 1985. In this talk, I will recall the conjectures of Mazur and Tate and explain how understanding Gross's conjecture helps in proving a substantial part of them. This is joint work in progress with Matthew Honnor and relies on a refinement of the existing theory of Euler systems.