

---

**FILIP NAJMAN**, University of Zagreb

*Quadratic points on bielliptic modular curves  $X_0(n)$*

Bruin and Najman, Ozman and Siksek and Box described all the quadratic points on the modular curves of genus  $2 \leq g(X_0(n)) \leq 5$ . Since all the hyperelliptic curves  $X_0(n)$  are of genus  $\leq 5$  and as a curve can have infinitely many quadratic points only if it is either of genus  $\leq 1$ , hyperelliptic or bielliptic, the question of describing the quadratic points on the bielliptic modular curves  $X_0(n)$  naturally arises; this question has recently also been posed by Mazur.

We answer Mazur's question completely and describe the quadratic points on all the bielliptic modular curves  $X_0(n)$ , for which this has not been done already. The values of  $n$  that we deal with are  $n = 60, 62, 69, 83, 89, 92, 94, 95, 101, 119$  and  $131$ ; the curves  $X_0(n)$  are of genus up to 11. The two main methods we use is Box's relative symmetric Chabauty and an application of a moduli description of  $\mathbb{Q}$ -curves of degree  $d$  with an independent isogeny of degree  $m$ , which reduces the problem to finding the rational points on several quotients of modular curves. This is joint work with Borna Vukorepa.