

## Exposé court

### 36 *Genus two curves with everywhere good reduction over quadratic fields*

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(i) We classify genus 2 curves defined over  $\mathbb{Q}$  with at least two rational Weierstrass points and whose absolute discriminant is an odd prime (genus two analogues to Neumann-Setzer families of elliptic curves over the rationals).

(ii) We provide the first infinite sequence of pairs  $(K, C)$  where  $K$  is a real (complex) quadratic field and  $C$  is a genus 2 curve with everywhere good reduction over  $K$ . Moreover, we show that the Jacobian of  $C$  is an absolutely simple abelian variety.

Joint work with Mohammad Sadek.

### *Bibliography*

- [1] A. Dabrowski and M. Sadek. Genus 2 curves with bad reduction at one odd prime. arXiv:2003.09010v2.
- [2] A. Dabrowski and M. Sadek. Genus two curves with everywhere good reduction over quadratic fields. arXiv:2109.00616v1.