

**On the torsion group of elliptic curves induced by Diophantine
triples over quadratic fields**

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This is joint work with Andrej Dujella and Ivan Soldo. The possible torsion groups of elliptic curves induced by Diophantine triples over quadratic fields, which do not appear over \mathbb{Q} , are $\mathbb{Z}/2\mathbb{Z} \times \mathbb{Z}/10\mathbb{Z}$, $\mathbb{Z}/2\mathbb{Z} \times \mathbb{Z}/12\mathbb{Z}$ and $\mathbb{Z}/4\mathbb{Z} \times \mathbb{Z}/4\mathbb{Z}$. We show that all these torsion groups indeed appear over some quadratic field. Moreover, we prove that there are infinitely many Diophantine triples over quadratic fields which induce elliptic curves with these torsion groups.