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Nils Bruin* (nbruin@sfu.ca), Department of Mathematics, Simon Fraser University, Burnaby, BC V5A1S6, Canada, and **Michael Stoll**. *Solvability of small curves of genus 2*.

There is no known algorithm for deciding if a complete algebraic curve defined over the rational field has any rational points. In fact, due to the negative answer to the related question about integral points on arbitrary hypersurfaces (Hilbert's tenth problem), one may be pessimistic that such an algorithm exists.

On the other hand, there exists a variety of methods that succeed in providing an answer in many particular situations. Subject to some plausible conjectures, these methods should in fact always work.

We tested these methods systematically on about 200,000 curves of genus 2 and developed some improvements on the way. We report on our success. (Received March 02, 2006)