

On Mordell's equation

István Gaál

We survey the history of Mordell's classical equation $x^3+k=y^2$. Recently M.E.Pohst, M.Pohst and I.Gaál gave an improvement of Wildanger's method which makes possible to solve the equation up to $|k| < 10^{15}$. We give some details of the new method and give interesting examples.

Integral basis and monogenity in parametric families of number fields

László Remete

We consider infinite parametric families of number fields, pure extensions and the family of simplest sextic number fields. We show that the structure of their integral bases is periodic and explicitly give the integral bases. Using the integral basis we explicitly construct factors of the corresponding index form. This leads to conditions on the monogenity of the fields.