

Computing unit groups

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The group of units is a fundamental invariant of a commutative ring. However, not much is known about the unit group in theory, and explicit computation of the unit group is difficult in practice. For rings of geometric interest, the structure of the unit group is better understood, although basic computational questions remain open. I will discuss some theoretical questions about unit groups, as well as some algorithms to compute unit groups, for smooth curves of low genus. Partly joint with Sameera Vemulapalli and Leon Zhang.