

## Online Number Theory Seminar

18 November 2022. – 17:00-17:50

### Christopher Rasmussen: An open source implementation for solving S-unit equations

Many enumerative problems in arithmetic geometry and number theory encounter a bottle neck around solving instances of the S-unit equation over number fields. We report on the development of a fully open-source computer package, now included in SageMath, for solving these unit equation problems. We give an overview of the methods used by the algorithm, discuss some applications that make use of the solver, and identify areas for future improvement. This is joint work with Alejandra Alvarado, Angelos Koutsianas, Beth Malmskog, Christelle Vincent, and McKenzie West.