

# Computing the cohomology of constructible sheaves on curves

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## Abstract

Given a curve  $X$  over an algebraically closed field, and an integer  $n$  invertible on  $X$ , the cohomology groups of constructible sheaves of  $\mathbb{Z}/n\mathbb{Z}$ -modules on  $X$  are finite. In this talk, I will give a completely explicit description of the cohomology complex of such sheaves on a (possibly singular) curve  $X$ , as well as a description of the cup-products in the cohomology of finite locally constant sheaves when  $X$  is projective. I will give the algorithmic complexity of the computation of the cohomology complex, and talk about the cases when this method can be used in practice using computer algebra systems.