

# On construction of higher rank Kolyvagin systems

Takamichi Sano

Osaka University  
E-mail: [tkmc310@gmail.com](mailto:tkmc310@gmail.com)

## Abstract

Recently, Mazur and Rubin initiated the theory of higher rank Kolyvagin systems. Although it is expected that higher rank Kolyvagin systems are constructed from higher rank Euler systems, no general construction is known except for the rank one case. In this talk, I will explain that a higher rank Euler system is constructed from elements in determinants of étale cohomology (in an algebraic way), and that a higher rank Kolyvagin system is naturally constructed from such an Euler system. If time permits, I will also talk about several results on higher Fitting ideals of Selmer groups. This is joint work with David Burns.