

1139-11-270

Lauren Heller, Ján Mináč and **Andrew Schultz*** (andrew.c.schultz@gmail.com), 106
Central St., Department of Mathematics, Wellesley, MA 02481. *Module structure of Artin-Scheier
theory for rank 2 elementary p -abelian extensions.* Preliminary report.

We discuss recent progress in computing the Galois module structure of $K/\wp(K)$ when $\text{Gal}(K/F) \simeq \mathbb{Z}/p \oplus \mathbb{Z}/p$; here K is a field of characteristic p , and $K/\wp(K)$ is the classifying space for elementary p -abelian extensions of K . When viewed as a Galois module, this space parameterizes those elementary p -abelian extensions of K that are additionally Galois over F . This project is one of the few in which the module structure for such a parameterizing space has been computed when the base extension is non-cyclic, though the results we obtain have a similar flavor to analogous results in the cyclic case. We also present current work in extending these results to groups of higher rank. (Received February 13, 2018)