

1128-55-222

Józef H. Przytycki (przytyck@gwu.edu) and **Seung Yeop Yang*** (syyang@gwu.edu). *On quandle homology of the abelian extension of a quasigroup quandle.*

Rack homology is the first homology theory using right distributive structures, and it was modified to obtain state-sum invariants of knots and knotted spheres. A lot of research is being done on quandle homology of connected quandles, but not much is known about quandle homology of non-connected quandles. At the Knots in Hellas 2016 conference, Nosaka conjectured that for odd k the third quandle homology of the dihedral quandle of order $2k$ has $\mathbb{Z}_k \oplus \mathbb{Z}_k$ -torsion.

We study annihilation of rack and quandle homology groups of the abelian extension of a quasigroup quandle, and based on it, we compute the torsion of its quandle homology. This is a joint work with Józef H. Przytycki. (Received February 27, 2017)