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Seung Yeop Yang* (syyang@gwu.edu) and **Jozef H. Przytycki**. *Torsion subgroups of rack homology groups of some finite quandles.*

It is a classical result in reduced homology of finite groups that the order of a group annihilates its homology. The first general results in this direction were obtained independently about 2001 by R.A.Litherland and S.Nelson, and P.Etingof and M.Grana. The result of Litherland-Nelson is generalized by Niebrzydowski and Przytycki and in particular, they prove that the torsion part of the homology of the dihedral quandle R_3 is annihilated by 3. In Niebrzydowski-Przytycki's paper, it is conjectured that for a finite quasigroup quandle (the special case of connected quandles), torsion of its homology is annihilated by the order of the quandle. The conjecture is proved by T.Nosaka for finite Alexander quasigroup quandles. In this talk, we prove the conjecture in full generality, and find upper bounds for the torsion of rack homology of some finite quandles (including all connected quandles of order up to 14 and some non-connected quandles such as R_4). (Received January 19, 2015)