

1096-22-1495

Alissa S. Crans* (acrans@lmu.edu), **Jozef Przytycki** and **Krzysztof Putyra**. *Torsion in One-term Distributive Homology.*

The one-term distributive homology was introduced by J.H.Przytycki as an atomic replacement of rack and quandle homology, which was first introduced and developed by R.Fenn, C.Rourke and B.Sanderson, and J.S.Carter, S.Kamada and M.Saito. This homology was initially suspected to be torsion-free, but we show in this paper that the one-term homology of a finite spindle can have torsion. We carefully analyze spindles of block decomposition of type $(n,1)$ and introduce various techniques to compute their homology precisely. In addition, we show that any finite group can appear as the torsion subgroup of the first homology of some finite spindle. Finally, we show that if a shelf satisfies a certain, rather general, condition then the one-term homology is trivial. (Received September 16, 2013)