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Alex Martsinkovsky*, alexmart@neu.edu. *Injective torsion.*

Classical torsion was defined for modules over commutative domains. One possible extension of this notion to modules over noncommutative rings is the 1-torsion, defined as the kernel of the canonical map from a module to its double dual. When the module is finitely presented, the 1-torsion admits a cohomological description. Unfortunately, for infinite module over commutative domains, the classical torsion may be strictly contained in the 1-torsion. The goal of this talk is to remove this limitation by introducing a new notion of torsion over arbitrary rings and show that: 1) over commutative domains it coincides with the classical torsion, even for infinite modules, and 2) for finitely presented modules, it coincides with the 1-torsion. (Received August 25, 2016)