Title:	The twisted derivation problem for group rings
Authors:	Chaudhuri, Dishari (/jspui/browse?type=author&value=Chaudhuri%2C+Dishari)
Keywords:	twisted derivation problem group
Issue Date:	2021
Publisher:	Springer Link
Citation:	Archiv Der Mathematik, 116(4), 391–401.
Abstract:	We study (σ,τ) -derivations of a group ring RG where G is a group with center having finite index in G and R is a semiprime ring with 1 such that either R has no torsion elements or that if R has p-torsion elements, then p does not divide the order of G and let σ,τ be R-linear endomorphisms of RG fixing the center of RG pointwise. We generalize Main Theorem 1.1 of Chaudhuri (Comm Algebra 47(9): 3800–3807, 2019) and prove that there is a ring T⊃R such that Z(T)⊃Z(R) and that for the natural extensions of σ,τ to TG, we get H1(TG,σTGτ)=0 , where σTGτ is the twisted TG−TG -bimodule. We provide applications of the above result and Main Theorem 1.1 of Chaudhuri (2019) to integral group rings of finite groups and connect twisted derivations of integral group rings to other important problems in the field such as the isomorphism problem and the Zassenhaus conjectures. We also give an example of a group G which is both locally finite and nilpotent and such that for every field F, there exists an F-linear σ -derivation of FG which is not σ -inner.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1007/s00013-020-01562-0 (https://doi.org/10.1007/s00013-020-01562-0) http://hdl.handle.net/123456789/5174 (http://hdl.handle.net/123456789/5174)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need To Add…Full Text_PDF (1) (/jspui/bitstream/123456789/5174/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF%20%281%29)	Only IISER Mohali authors are available in the record.	15.36 kB	Unknown	View

Show full item record (/jspui/handle/123456789/5174?mode=full)
(/jspui/handle/123456789/5174/statistics)