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Title:	Narain Gupta's three normal subgroup problem and group homology
Authors:	Mikhailov, R. (/jspui/browse?type=author&value=Mikhailov%2C+R.) Passi, I.B.S. (/jspui/browse?type=author&value=Passi%2C+I.B.S.)
Keywords:	Group ring Homology of groups Derived functors of non-additive functors Free group ring
Issue Date:	2019
Publisher:	Elsevier
Citation:	Journal of Algebra, 526,pp.243-265.
Abstract:	This paper is about application of various homological methods to classical problems in the theory of group rings. It is shown that the third homology of groups plays a key role in Narain Gupta's three normal subgroup problem. For a free group $F$ and its normal subgroups $R, S, T$ , and the corresponding ideals in the integral group ring $Z[F]$ , $r = (R-1)Z[F]$ , $s = (S-1)Z[F]$ , $t = (T-1)Z[F]$ , a complete description of the normal subgroup $F \cap (1 + rst)$ is given, provided $R \subseteq T$ and the third, fourth and fifth homology groups of $R/R \cap S$ are torsion groups.
URI:	<a href="https://www.sciencedirect.com/science/article/pii/S0021869319300900">https://www.sciencedirect.com/science/article/pii/S0021869319300900</a> ( <a href="https://www.sciencedirect.com/science/article/pii/S0021869319300900">https://www.sciencedirect.com/science/article/pii/S0021869319300900</a> ) <a href="http://hdl.handle.net/123456789/2030">http://hdl.handle.net/123456789/2030</a> ( <a href="http://hdl.handle.net/123456789/2030">http://hdl.handle.net/123456789/2030</a> )
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