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Title:	Rings over which the transpose of every invertible matrix is invertible
Authors:	Khurana, Dinesh (/jspui/browse?type=author&value=Khurana%2C+Dinesh)
Keywords:	Noncommutative rings Invertible matrices Transposes Jacobson radical Additive Commutators
Issue Date:	2009
Publisher:	Elsevier B.V.
Citation:	Journal of Algebra 322,(5),, pp. 1627–1636
Abstract:	We prove that the transpose of every invertible square matrix over a ring $R$ is invertible if and only if $R/\text{rad}(R)$ is commutative. Many other characterizations are obtained for such rings $R$ in terms of $U(R)$ (the group of units of $R$ ), including, for instance, $c+ba \in U(R) \Rightarrow c+ab \in U(R)$ , and $1+abc-cba \in U(R)$ (for all $a,b,c \in R$ ). We also consider a natural weakening of these conditions, namely, $1+abc \in U(R) \Rightarrow 1+cba \in U(R)$ , and show that, for von Neumann regular rings, this is a (necessary and) sufficient condition for the commutativity of $R$ .
Description:	Only IISERM authors are available in the record.
URI:	<a href="http://www.sciencedirect.com/science/article/pii/S0021869309003482">http://www.sciencedirect.com/science/article/pii/S0021869309003482</a> ( <a href="http://www.sciencedirect.com/science/article/pii/S0021869309003482">http://www.sciencedirect.com/science/article/pii/S0021869309003482</a> ) <a href="http://dx.doi.org/10.1016/j.jalgebra.2009.05.029">http://dx.doi.org/10.1016/j.jalgebra.2009.05.029</a> ( <a href="http://dx.doi.org/10.1016/j.jalgebra.2009.05.029">http://dx.doi.org/10.1016/j.jalgebra.2009.05.029</a> )
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