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Title:	Invertible commutators in matrix rings
Authors:	Khurana, Dinesh (/jspui/browse?type=author&value=Khurana%2C+Dinesh)
Keywords:	Matrix rings additive commutators completable and reflectable matrices
Issue Date:	2011
Citation:	J. Alg. Appl. 10 (1) pp.,51-71
Abstract:	In a matrix ring $R = M_2(S)$ where S is a commutative ring, we study equations of the form $XY - YX = U \in GL_2(S)$, focusing on matrices in R that can appear as X or as XY in such equations. These are the completable and the reflectable matrices in R . For matrices $A \in R$ with a zero row or with a constant diagonal, explicit and "computer-checkable" criteria are found for A to be completable or reflectable. A formula for $\det(XY - YX)$ discovered recently with Shomron connects this study to diophantine questions about the representation of units of the ground ring S by quadratic forms of the type $px^2 + qy^2$.
Description:	Only IISERM authors are available in the record.
URI:	http://www.worldscientific.com/doi/abs/10.1142/S0219498811004422 (http://www.worldscientific.com/doi/abs/10.1142/S0219498811004422) http://hdl.handle.net/123456789/62 (http://hdl.handle.net/123456789/62)
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