

Green H-relation of the square matrices over a local ring whose maximal ideal is generated by a nilpotent element

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Abstract

Let R be a commutative local ring whose maximal ideal is generated by a nilpotent element, and $\text{Mat}(n, R)$ be the multiplicative monoid of the square matrices of order n over R . In this article, we provide (1) the construction of the Green's H -equivalence classes in $\text{Mat}(n, R)$, and (2) the enumeration of the Green's H -equivalence classes in $\text{Mat}(n, \mathbb{Z}/p^d\mathbb{Z})$.

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