

1069-13-15

Abdeslam Mimouni* (amimouni@kfupm.edu.sa), Department of Mathematics and Statistics, King Fahd University of Petroleum & Minerals, Dhahran, Eastern 31261, Saudi Arabia, and **Mohammed Kabbour** and **Najib Mahdou**. *Transfer of Arithmetical-like Properties to Trivial Extensions*.

In this paper we investigate the transfer of the notions of elementary divisor ring, Hermite ring, Bezout ring and arithmetical ring to trivial ring extensions of commutative rings by modules. We provide necessary and sufficient conditions for $R = A \times E$ to be an arithmetical ring where E is a non-torsion or finitely generated A -module. Particularly, we prove that $A \times A$ is an arithmetical ring if and only if A is a von Neumann regular ring, and $A \times Q(A)$ is an arithmetical ring if and only if A is a semi-hereditary ring. (Received November 12, 2010)