

STRONGLY GRADED RINGS WHICH ARE MAXIMAL ORDERS

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ABSTRACT.

Let $R = \bigoplus_{n \in \mathbb{Z}} R_n$ be a strongly graded ring of type \mathbb{Z} . In [6], it is shown that if R_0 is a maximal order, then so is R . We define a concept of \mathbb{Z} -invariant maximal order and show R_0 is a \mathbb{Z} -invariant maximal order if and only if R is a maximal order. We provide examples of R_0 which are \mathbb{Z} -invariant maximal orders but not maximal orders.

Key words and phrases. Graded ring; maximal order; prime Goldie ring; hereditary Noetherian prime ring.