

1083-13-26

Jay Shapiro* (jshapiro@gmu.edu) and **David E Dobbs**. *Going-down in Monoid Rings*.

Let $A \subseteq B$ be nonzero commutative unital rings and $T \subseteq S$ torsion-free cancellative abelian monoids. We show that if S is of rank 1, then $A[T] \subseteq A[S]$ satisfies GD (the going-down property). An example shows that the preceding conclusion fails if S and T each have rank 2, with A the field with two elements. Also, if S is of rank 1, then $A[S] \subseteq B[S]$ satisfies GD if and only if the extension of polynomial rings $A[X] \subseteq B[X]$ satisfies GD. (Received July 19, 2012)