

Meeting: 1004, Bowling Green, Kentucky, SS 11A, Special Session on Commutative Ring Theory

1004-13-56 **Jack Maney*** (jmaney@usd.edu), Department of Mathematical Sciences, The University of South Dakota, 414 E. Clark St., Vermillion, SD 57069. *Order-preserving injections on groups of divisibility*. Preliminary report.

Let R be a domain with quotient field K . Recall that we define the group of divisibility of R to be the partially ordered abelian group $G(R) := K^*/U(R)$ with $\alpha U(R) \leq \beta U(R)$ if and only if $\frac{\beta}{\alpha} \in R$. If T is an overring of R , then $G(T)$ is, in some sense, “smaller” than $G(R)$. We investigate the condition of the existence of an order-preserving injection $h : G(T) \rightarrow G(R)$, paying special attention to the case when h is a right inverse of the canonical projection $\pi : G(R) \rightarrow G(T)$. (Received January 13, 2005)