1025-16-83 **Jason P Bell*** (`jpb@math.sfu.ca`), Department of Mathematics, 8888 University Dr., Burnaby, BC V5A 1S6, Canada. *Subfields of quotient division algebras of affine domains.*

Let A be a finitely generated domain over a field K and let $Q(A)$ denote its quotient division algebra. We use Zhang's lower transcendence degree to extend certain results of Zhang. We show that for a large class of non-PI domains A, the subfields all have transcendence degree at most $\mathrm{GKdim}(A) - 1$. In particular, we show that if A is a non-PI domain of GK dimension less than 3 over an algebraically closed field K and $x \in Q(A)$ is not a scalar, then the centralizer of x is a field of transcendence degree 1 and all subfields of $Q(A)$ have transcendence degree at most 1. We also give some conjectures which, if proved, would prove the conjecture of Small which says the subfields of a non-PI domain of GK dimension d have transcendence degree at most $d - 1$. (Received January 16, 2007)