1046-13-237 **Olivier Kwegna Heubo*** (oheubo@nmsu.edu), New Mexico State university, Department of Mathematical sciences, Las Cruces, NM 88003-8001. *Kronecker function rings of transcendental field extensions.*

We consider an extension F/D where F is a field and D a subring of F, we denote by $\Sigma(F/D)$ the set of all valuation rings V such that $D \subseteq V \subseteq F$ and V has quotient field F. We study the rings on the form $\bigcap_{V\in\Sigma(F/D)} V^b$, where V^b is the trivial extension of V. We admit the possibility that D is a field, D is not integrally closed and F is not the quotient field of D. Therefore the class of rings considered in this context are more general than the classical Kronecker function rings and is in fact an instance of Halter-Koch's notion of an F-function ring.

A case of special interest is when we consider a field extension F/K that has at most countable transcendence degree and the ring D to be a finitely generated K-sub algebra of F. We define,

$$H := \bigcap_{V\in\Sigma(F/D)} V^b.$$

We investigate the ideal structure of H by using the topological structure of the Zariski-Riemann space $\Sigma(F/D)$. We show that for any pair of nonnegative integers d and h there are infinitely many prime ideals of dimension d and height h that are minimal over any proper nonzero finitely generated ideal of H. (Received August 21, 2008)