1095-13-125 **Bruce Olberding*** (olberdin@nmsu.edu), Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003-8001. *On the geometry of Prüfer intersections of valuation rings.*

Let F be a field, let D be a subring of F and let Z be an irreducible subspace of the space of all valuation rings between D and F that have quotient field F. Then Z is a locally ringed space whose ring of global sections is $A = \bigcap_{V \in Z} V$. All rings between D and F that are integrally closed in F arise in such a way. Motivated by applications in areas such as multiplicative ideal theory and real algebraic geometry, a number of authors have formulated criteria for when A is a Prüfer domain. We give geometric criteria for when A is a Prüfer domain that reduce this issue to questions of prime avoidance. These criteria, which unify and extend a variety of different results in the literature, are framed in terms of morphisms of Z into the projective line $\mathbb{P}^1_D$. (Received September 05, 2013)