1115-13-262 **Bruce Olberding*** (olberdin@nmsu.edu), Department of Mathematical Sciences, Las Cruces, NM 88011. *Intersecting valuation rings in the Zariski-Riemann space of a field.*

The Zariski-Riemann space of a field F is the collection of all valuation rings having quotient field F endowed with the Zariski topology. This topology is spectral and hence the collection of valuation rings admits the patch as well as inverse topologies. We discuss some recent applications of the topological point of view to the study of intersections of valuation rings. We also discuss limitations of a strictly topological approach, some of which can be overcome by viewing the Zariski-Riemann space X as a locally ringed space and considering morphisms into projective schemes. Issues of interest then include whether a subspace of X lies in an affine scheme. We discuss a number of situations in which this is the case. We also relate this topic to rings of classical interest in Noetherian and non-Noetherian commutative ring theory. (Received September 20, 2015)