TOPOLOGICAL PROPERTIES OF SUBSETS OF THE ZARISKI SPACE

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The *Zariski space* $\mathrm{Zar}(F|D)$ of a field F over a domain D (contained in F) is the set of all the valuation rings of F containing D. This space can be naturally endowed with a topology (called the *Zariski topology*) that makes $\mathrm{Zar}(F|D)$ a compact space that is homeomorphic to the spectrum of a (explicitly defined) ring.

In this talk, I will present some results on the topological properties of some distinguished subsets Δ of $\mathrm{Zar}(F|D)$; in particular, I shall analyze the case where D is a one-dimensional valuation domain with quotient field K, $F = K(X)$ is the field of rational functions over K and Δ is a space of valuation domains constructed from pseudo-convergent sequences.

This is joint work with Giulio Peruginelli