1163-13-665 **Dario Spirito*** (`spirito@math.unipd.it`), Via Trieste, 63, 35121 Padova, Italy, and **Giulio Peruginelli** (`gperugin@math.unipd.it`), Via Trieste, 63, 35121 Padova, Italy. *Extending valuation domains through pseudo-monotone sequences, II.*

Let V be a valuation domain and K its quotient field. Pseudo-monotone sequences allow to define extensions of V to the field $K(X)$ of rational functions with precise algebraic properties; furthermore, if K is algebraically closed, all extensions of V to $K(X)$ can be described in this way.

In this talk, I will discuss from a topological point of view the space of extensions of V obtained through pseudo-monotone sequences, viewed as a subspace of the Zariski space $\mathrm{Zar}(K(X)|V)$ under the Zariski and the constructible topology, and some subspaces defined through some algebraic properties of the pseudo-monotone sequences. In particular, I will consider the spaces of extensions obtained through pseudo-convergent sequences that have the same fixed breadth (which give examples of ultrametric subspaces of $\mathrm{Zar}(K(X)|V)$), and the spaces of extensions obtained through pseudo-convergent sequences sharing one pseudo-limit (which give examples of spaces similar to $\mathbb{R}$ with the lower limit topology). Finally, I will show how these spaces can be used to obtain counterexamples, e.g. in determining when the Zariski space (under the constructible topology) is metrizable.

This is a joint work with Giulio Peruginelli. (Received September 11, 2020)