

# THE VALUATIVE TREE

**Josnei Novacoski**  
**University of Silesia (Katowice, Poland)**

Take a two-dimensional regular local domain  $R$ . The space of all valuations centered at  $R$  has a non-metric tree structure, which is called the valuative tree. However, the notion of non-metric tree appearing in the literature does not guarantee the existence of infimum for a non-empty set of valuations. We give a more general definition of a rooted non-metric tree and prove that the valuative tree has this more general property. We also generalize some topological results related to a non-metric tree, for instance that the weak tree topology is always coarser than the metric topology given by any parametrization.