

# How to tame the Knaster continuum using the ultrafilter orders?

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The talk will be based on the results from my master's thesis *Linear orders on chainable continua*, prepared under supervision of prof. Witold Marciszewski. The thesis is devoted to study families of ultrafilter orders on a given chainable continuum  $X$  (such as e.g. arc, the Warsaw sine curve, the Knaster continuum etc.). These orders depend on a fixed sequence of chains, covering  $X$  (obtained from chainability of  $X$ ), and on fixed nonprincipal ultrafilter on  $\mathbb{N}$ . Alternatively ultrafilter orders may be defined using representation of  $X$  as an inverse limit of a sequence of arcs and a fixed nonprincipal ultrafilter on  $\mathbb{N}$ .

During my talk I will introduce the notion of an ultrafilter order on chainable continuum and present some results concerning ultrafilter orders on the Knaster continuum. In particular, I will show that there exist  $2^{\mathfrak{c}}$  distinct ultrafilter orders on the Knaster continuum. I will also discuss topological properties of the Knaster continuum equipped with an order topology generated by a certain ultrafilter order.