

## Topological Sequence Entropy in Onedimensional Dynamics

Roman Hric, Department of Mathematics, Faculty of Sciences, Matej Bel University, Banska Bystrica, Slovakia.

### ABSTRACT

---

The poster is based on results obtained in [H1] and [H2]. We discuss the connection between chaos in the sense of Li and Yorke and topological sequence entropy for continuous selfmaps of the interval and of the circle. In [FS] N. Franzová and J. Smítal proved that a continuous map from the interval into itself is chaotic if and only if its topological sequence entropy relative to some increasing sequence is positive. For any given increasing sequence we construct a chaotic map from the interval into itself with zero topological sequence entropy relative to this sequence. We also prove the same results for maps of the circle into itself. Furthermore, we prove several results concerning topological sequence entropy for maps of general compact metric spaces.

### References

- [FS] Franzová N. and Smítal J., *Positive sequence entropy characterizes chaotic maps*, Proc. Amer. Math. Soc. 112 (1991), 1083–1086.
- [H1] Hric R., *Topological sequence entropy for maps of the interval*, Proc. Amer. Math. Soc. 127 (1999), 2045–2052.
- [H2] Hric R., *Topological sequence entropy for maps of the circle*, Comment. Math. Univ. Carolinae 41 (2000), 53–59.
- 

**Keywords:** *chaotic map, interval map, circle map, topological sequence entropy*

**Mathematics Subject Classification:** *26A18, 54H20, 58F13*

**Contact Address:** hric@fpv.umb.sk