Alpha limit sets

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The backward dynamics of a system could be far richer than its forward counterpart. The talk will consist of an example illustrating such behavior, demonstrating how one can define the backward limit sets (so called alpha limit sets) of mappings on compact metric spaces in different ways. Then it will proceed to the investigation of the connection between these limit sets and the Birkhoff center, how the alpha limit sets are related to omega limit sets and whether their relation is somehow restricted.

We suggest one complete and one partial solution to the selected problems presented in the recently published article [1] Specifically we prove a conjecture proposing a characterisation of sets of β -limit points (i.e. limit points of all accumulation points of backward orbit branches of a specific point) for graph maps.

References

- On Backward Attractors of Interval Maps [J. Hantáková, S. Roth, Nonlinearity, 34(11):7415-7445, sep 2021]
- [2] On the structure of α-limit sets of backward trajectories for graph maps[Magdalena Foryś-Krawiec, Jana Hantáková, and Piotr Oprocha, Discrete Continuous Dynamical Systems, 42, 01 2021]