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HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES

fbmn

FACHBEREICH MATHEMATIK
UND NATURWISSENSCHAFTEN

mn seminar

Dynamical properties of S-gap shifts and other shift spaces

We study the combinatorial properties of certain shift spaces. To study these properties we introduce two new classes of shifts called boundedly supermultiplicative (BSM) and balanced shifts respectively. It turns out that any almost specified shift is both BSM and balanced, but not the other way around. We look at several examples including the S-gap shift and the beta shift.

We also show how to approximate the topological entropy for BSM shifts. In the more restrictive context of S-gap shifts we show that there exists a simple identification between combinatorial problems from S-gap shifts and combinatorial problems from expansions in non-integer bases. This identification allows us to use the machinery from expansions in non-integer bases to give straightforward constructions of S-gap shifts with certain desirable properties. We also use this identification to address the question of for a given value $q \in (0; 1)$ how many S-gap shifts exist with entropy q : For certain exceptional values of q there is a unique S-gap shift with this entropy.



Prof. Eugen Ghenciu
(University of Wisconsin)

Di 14. November 2017,
16:15 Uhr

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