

The specification property in the dynamics of linear operators

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We introduce the notion of the Specification Property (SP) for operators on Banach spaces, inspired by the usual one of Bowen for continuous maps on compact spaces. This is a very strong dynamical property related to the chaotic behaviour. Several general properties of operators with the SP are established. For instance, every operator with the SP is mixing, Devaney chaotic, and frequently hypercyclic. In the context of weighted backward shifts, the SP is equivalent to Devaney chaos. In contrast, there are Devaney chaotic operators (respectively, mixing and frequently hypercyclic operators) which do not have the SP.