

Dynamics of linear operators

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In this work, we study the shadowing and stability properties in linear dynamical systems. In particular, we prove that for any invertible operator T on any complex Banach space X :

1. T is shadowing and expansive if and only if T is hyperbolic;
2. T is structurally stable and expansive implies that T is uniformly expansive.

We also prove that there exist invertible operators on Banach spaces that are shadowing, structurally stable but are not hyperbolic.

This is a joint work with Nilson Bernardes (IME, UFRJ).