

Interval translation maps of three intervals

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Interval translation maps (ITMs) are the non-invertible generalizations of interval exchanges. We show that any ITM of three intervals can be reduced either to a rotation or to a double rotation. As a consequence, we prove the finiteness conjecture for the ITMs of three intervals. Namely, the subset of ITMs of finite type is open, dense, and has full Lebesgue measure. The set of ITMs of infinite type is a Cantor set of zero measure and of Hausdorff dimension less than full.

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