

Languages of general interval exchange transformations

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Abstract. The languages generated by interval exchange transformations have been characterized by Ferenczi-Zamboni (2008) and Belov-Cernyatev (2010) under some extra conditions on the system. Lifting these conditions leads us to consider successively: natural codings of standard interval exchange transformations, natural codings of affine interval exchange transformations, grouped codings of affine interval exchange transformations, and natural codings of generalized interval exchange transformations. We show that these four classes of languages are strictly increasing, and give necessary and/or sufficient (but not all equally explicit) combinatorial criteria to describe each of them. These work also, *mutatis mutandis*, for interval exchanges with flips.

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