

Affine interval exchange maps with a singular conjugacy to an IET

FRANK TRUJILLO AND CORINNA ULCIGRAI

Abstract. We produce affine interval exchange transformations (AIETs) which are *topologically* conjugated to (standard) interval exchange maps (IETs) via a *singular conjugacy*, i.e., a diffeomorphism h of $[0, 1]$ which is C^0 but not C^1 and such that the pull-back of the Lebesgue measure is a *singular* invariant measure for the AIET. In particular, we show that for almost every IET T_0 of $d \geq 2$ intervals and any vector ω belonging to the central-stable space $E_{cs}(T_0)$, for the Rauzy-Veech renormalization, any AIET T with log-slopes given by ω and semi-conjugated to T_0 is topologically conjugated to T . In addition, if ω does not belong to $E_s(T_0)$, the conjugacy between T and T_0 is singular.

Mathematics Subject Classification (2020): 37E05 (primary); 37B20, 37C15, 37E20, 37E45 (secondary).