AN IMPLEMENTATION OF THE BESTVINA–HANDEL ALGORITHM FOR SURFACE HOMEOMORPHISMS

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Abstract. Bestvina and Handel have introduced an effective algorithm that determines whether a given homeomorphism of an orientable, possibly punctured surface is pseudo-Anosov. We present a Java software package that realizes this algorithm for surfaces with one puncture. It allows the user to define homeomorphisms in terms of Dehn twists, and in the pseudo-Anosov case it generates images of train tracks in the sense of Bestvina–Handel.