1138-20-145 **Pallavi Dani***, pdani@math.lsu.edu, and **Timothy Riley**. *Subgroup distortion in hyperbolic groups.*

The distortion function of a subgroup measures the extent to which the intrinsic word metric of the subgroup differs from the metric induced by the ambient group. Olshanskii showed that there are almost no restrictions on which functions arise as distortion functions of subgroups of finitely presented groups. This prompts one to ask what happens if one forces the ambient group to be particularly nice, say, for example, to be hyperbolic. I will survey which functions are known to be distortion functions of subgroups of hyperbolic groups. I will then describe joint work with Tim Riley which adds to this list: we construct free subgroups of hyperbolic groups with distortion functions $2^{n^{p/q}}$, for all integers $p > q > 0$. (Received February 07, 2018)