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Asymmetry of the Lipschitz metric on Outer Space.

Outer Space is a topological model for $\mathrm{Out}(F_n)$, the outer automorphism group of F_n. Recently attempts have been made to endow Outer Space with a metric, the Lipschitz metric, and explore its properties. The Lipschitz metric on Outer Space is has proven to be useful as shown the recent proof of the classification of $\mathrm{Out}(F_n)$ elements by Mladen Bestvina, and the proof that axes in the Cayley graph of irreducible elements of $\mathrm{Out}(F_n)$ are Morse by Yael Algom-Kfir. However, this metric is not symmetric, in fact $d(x, y)$ can be arbitrarily large while $d(y, x)$ remains bounded. In this talk we will discuss the reasons for the asymmetry and provide conditions for $d(x, y)/d(y, x)$ to be bounded. (Received September 23, 2010)