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Brent B. Solie* (solie@math.uiuc.edu), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 W. Green St., Urbana, IL 61801. *Genericity of Filling Elements.*

An element of a finitely generated non-Abelian free group $F(X)$ is said to be *filling* if that element has positive translation length in every very small minimal isometric action of $F(X)$ on an \mathbb{R} -tree. We give a proof that the set of filling elements of $F(X)$ is exponentially $F(X)$ -generic in the sense of Arzhantseva and Ol'shanskiĭ. We also provide an algebraic sufficient condition for an element to be filling and show that there exists an exponentially $F(X)$ -generic subset of filling elements whose membership problem is solvable in linear time. (Received September 17, 2010)