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Tara C. Davis* (tdavis@hpu.edu), 1164 Bishop Street, UB 210A, Honolulu, HI 96813, and
Alexander Yu. Olshanskii (alexander.olshanskiy@vanderbilt.edu). *Relative Subgroup
Growth and Subgroup Distortion.*

We study the relative growth of finitely generated subgroups in finitely generated groups, and the corresponding distortion function of the embeddings. We explore which functions are equivalent to the relative growth functions and distortion functions of finitely generated subgroups. We also study the connections between these two asymptotic invariants of group embeddings. We give conditions under which a length function on a finitely generated group can be extended to a length function on a larger group. (Received September 16, 2013)