Growing Fractures Using Iterated Conformal Maps. H.G.E. HENTSCHEL, Emory University — We will describe how iterated conformal mapping techniques can be used to grow fractures computationally and investigate their geometric characteristics as well as stress distributions. We will describe the similarities and differences between Mode I, II, and III fracturing patterns. Iterated conformal mapping techniques allows an efficient and accurate solution of the Lame equations without resorting to lattice models and for calculating the fracture roughness exponent.